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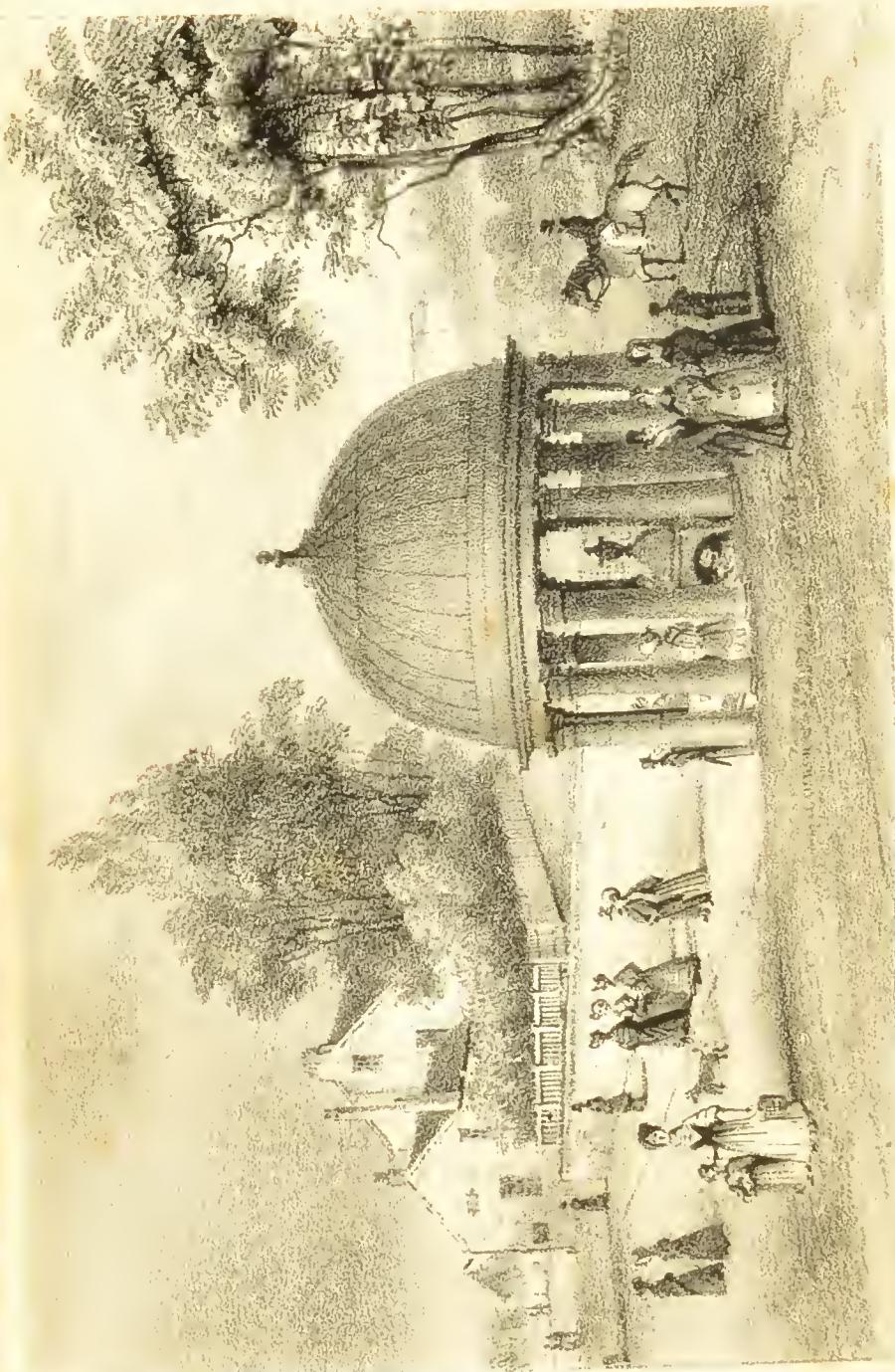
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THE  
HARROGATE  
MEDICAL GUIDE;  
A POPULAR TREATISE  
ON THE  
MINERAL WATERS OF HARROGATE,  
AND THE  
DISEASES IN WHICH THEY ARE USEFUL;  
WITH  
SUPPLEMENTARY REMARKS ON DIET & EXERCISE,

---

BY ALFRED SMITH,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS IN LONDON,  
SURGEON TO THE RIPON DISPENSARY, ETC.,  
AUTHOR OF "OBSERVATIONS ON THE WATERS OF HARROGATE."

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"Justa confessione omnes terræ quoque vires aquarum sunt beneficii. Quâ propter ante omnia ipsarum potentiae exempla ponemus. Cunctas enim quis mortalium enumerare queat?" PLIN.

"Difficile est, imo haud possibile, tritâ ab aliis viâ sic ingredi, ut in eorum vestigia nunquam incurras." SANADON.

LONDON:  
SIMPKIN AND MARSHALL; HARRISON, RIPON; PALLISER,  
HIGH HARROGATE; MESSRS. HARGROVES, YORK;  
AND BAINES AND NEWSOME, LEEDS.

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M D C C C X L I I .



TO ROBERT PALEY, ESQUIRE,

M. D.

OF BISHOPTON GRANGE, RIPON.

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MY DEAR SIR,

Your permission to dedieate this little work to you affords me an opportunity of expressing my admiration of your high character, worth, and benevolence, both as a Gentleman and a Physieian.

In this sentiment all who know you will unanimously and heartily coneur.

But I have an additional and personal gratification in thus acknowledging, in the only way in my power, the repeated and important instances of your kindness to me, during an intereourse of several years.

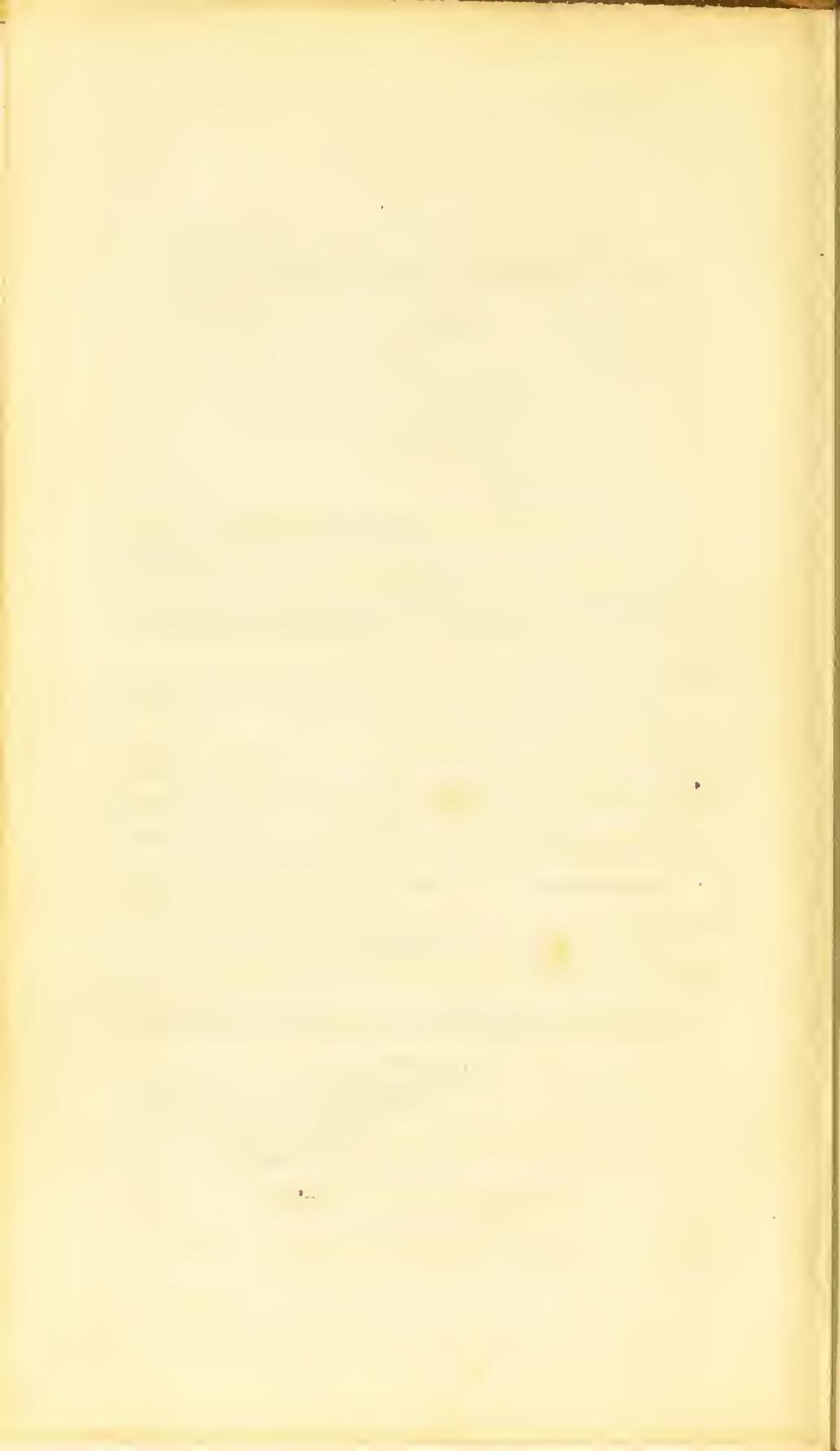
That you may long continue to enjoy, in the bosom of your family, the blessing of health, and the possession of happiness, is the sincere wish of,

My dear Sir,

Your faithful and obliged

Friend and Servant,

THE AUTHOR.



## PREFACE.

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HEALTH is the indispensable qualification for all enjoyment. Without it none of the bright and beautiful things with which the world abounds can yield gratification to man. When this fails, neither the allurements of pleasure, the pursuits of ambition, the beauties of nature, the discoveries of science, nor the creations of poetry can charm or delight the mind. Like an unstrung instrument of music, the system is but thrown into disorder and discord by the very impressions which should otherwise evoke harmony, and produce agreeable sensations. In the diseased state of the body the faculties of the mind are but sources of gloom, dissatisfaction, and despair. The memory of the past is filled with the images of departed joys, and overelouded with the undue and exaggerated pictures of disappointed hopes and unimproved advantages; the present is shrouded by the depressing feelings of deficient energy; and amid the

shadowy indistinctness of the future, doubt and apprehension, difficulties and dangers appear to be hovering, clothed with terrors not the less appalling because they are imaginary and unreal.

Health is the mainspring of all the business of the world. Without it exertion flags, and enterprise is at an end. It matters not in what walk of life a man may be placed; whether his mental or physical powers are taxed in the pursuit of those objects to which he is devoted;—both are alike prostrated, enfeebled, and impaired, not only by the sufferings attendant upon severe disease, but by the lassitude and discomfort of slight indisposition. So it very frequently happens that the man assailed by either, finds himself involved in schemes and employments planned with the decision of his perfect powers and vigour, and in part executed with the same energy; but which now appear perplexed with doubts, and surrounded with difficulties unfelt before, and serve only, by inducing irritation and anxiety of mind, to increase the debility and disorder of the body. And how often has the medical practitioner to regret that a state of mind such as this referred to, has for a long time rendered nugatory the best and most careful treatment which his skill could employ—keeping

up congestion in the head, indigestion in the stomach, and perpetuating symptoms which should otherwise have readily yielded to the means employed for their removal.

I am quite aware that nothing can seem more trite and common place than to urge considerations upon the value and importance of health. This is one of those truths which are the most readily admitted, but the least acted upon; and if its frequent re-iteration has any chance of pressing it upon the attention, so as to lead to practical care, I think it may well be justified. Nothing indeed, can equal the reckless indifference with which men risk and tamper with this blessing, except the miseries they experience from the loss of it, and the anxiety they evince to regain it. Men act as though the material substance of their bodies were harder than steel, and more imperishable than granite. There is no degree of exposure or fatigue to which, in the pursuit of wealth or pleasure, men will not subject themselves—unmindful that the very means they employ to obtain them are very likely to render their acquisition valueless or impracticable; and it is no uncommon thing to see the first half of a man's life spent in the pursuit of riches and enjoyments at the expense of his health; and the

latter part in the anxious care of his health, at the expense of enjoyments which he dares not indulge in, and riches which can only be employed in the attempt to regain his health. And, if we extend our consideration beyond the personal to the domestic and moral bearings of the subject—if we dwell upon the dreadful consequences to families and often to communities which result from undefined or erroneous views of the importance or conditions of preserving or restoring health—we shall hardly be inclined to complain that the subject is too often broached, or too earnestly insisted upon; and still less that various departments of it are from time to time treated of in a manner adapted for popular use. Information of some kind or other upon matters of such vast and universal importance, the public mind must and will have; and surely it can be no improper or unnecessary undertaking to supply it, as far as the ability or opportunity extends, with information of a correct and intelligible description. This is, perhaps, needed in many other departments of medical science; but in none more than in that which this publication especially regards. The properties of mineral waters, universally acknowledged and resorted to though they are, as powerful means of restoring or

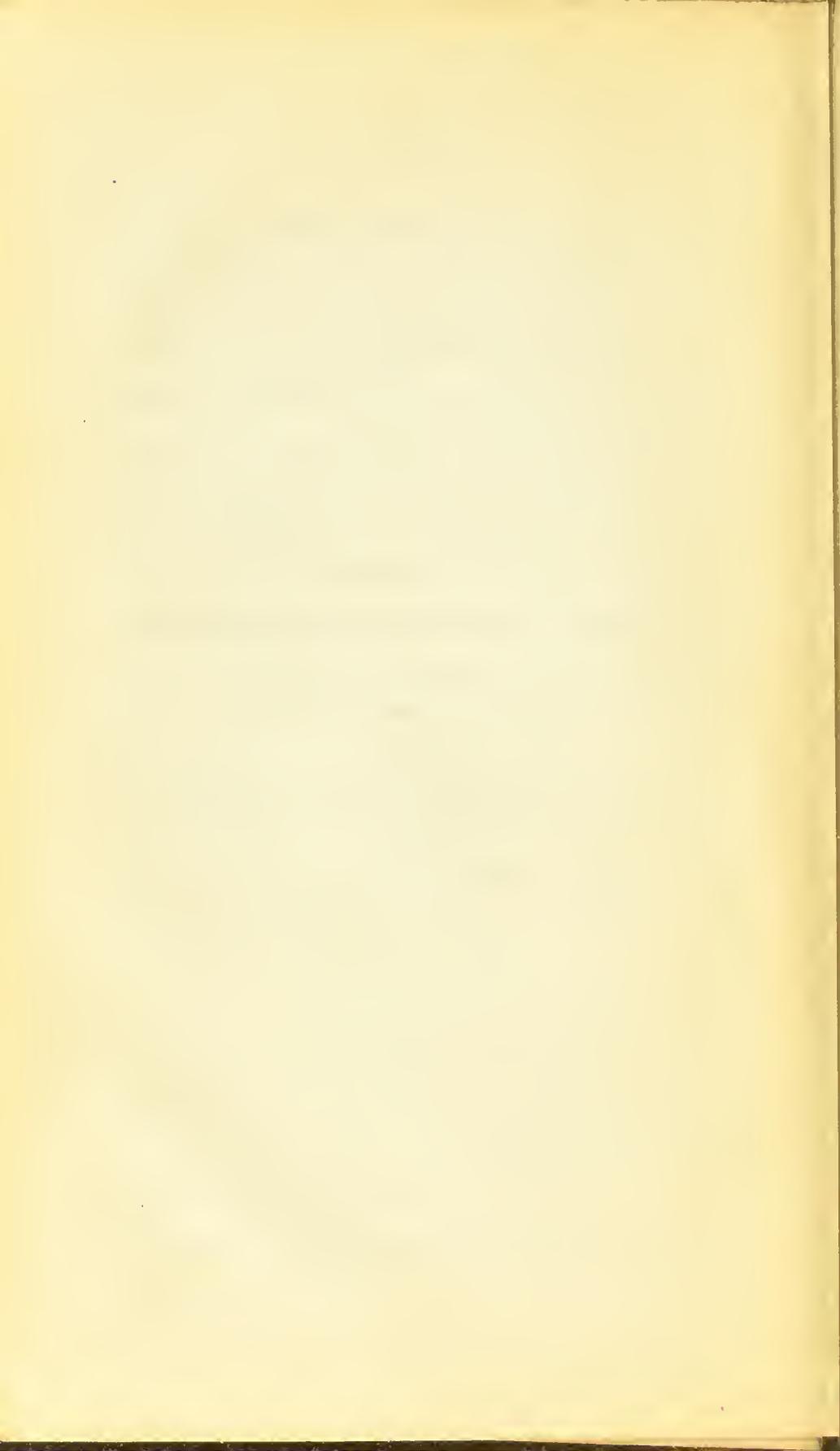
establishing health, are but little studied or understood, even by those who use them; and hence the waters themselves are often condemned for the inefficacy or injury resulting from their misapplication, through ignorance or inattention. Such patients are often hurried from one place to another—from one end of the kingdom to the other—and often after a vast sacrifice of time, trouble, and expense, fail in obtaining the relief which a judicious selection and well regulated use of one spring would certainly have afforded. The frequenters of the different spas, moreover, require some information as to their nature and uses in particular, as well as generally in reference to the diseases in which they are employed, for a reason which especially relates to them, more than to others. It is that they are, for the most part, removed from the medical advisers they have been accustomed to consult, and who can rarely furnish them with more than general and imperfect directions respecting the spas they are about to visit; while those to whom they may apply on the spot are deficient in the advantages which a knowledge of the patients' habits, temperaments, and especially their peculiarities of constitution affords in the treatment generally, and in the application of the waters to their peculiar cases. If these consider-

rations are correct respecting mineral watering-places generally, they are more particularly applicable to Harrogate. Many celebrated and excellent places possess but one spring. It is obvious that, however great its efficacy in the removal of disease, it can be but of limited application. The patient soon finds out whether he is or is not benefited by its use; and is induced to remove or remain accordingly. But Harrogate possesses several springs of various and indeed opposite properties; one of which may prove useless and even injurious in any given case, which would be speedily and certainly cured by the use of another; and some of which (it is not perhaps too much to say) would, by proper and careful management, be useful in almost every description of complaint likely to be benefited by the use of any mineral waters. The range of these is sufficiently extensive; for, leaving out cases of *acute* disease, (which it would be absurd to commit to the remedial powers of any spa) there are not many of the diseases which flesh is heir to, which may not, in some sense or degree, be lightened or relieved by some of the waters of Harrogate, especially if their efficacy is combined with judicious dietetic and medical treatment.

Such are the considerations which have been my in-

duement, and must form my apology for undertaking my present task; in the execution of which I shall endeavour, as plainly as possible, to treat of the various uses and applications of these useful agents in the relief of disease; and to afford, in a style as little encumbered as possible with technical phrases, such information as may be necessary and useful to the intelligent invalid. It is no part of my plan in the present work to extol one kind of water, at the expense of the rest; but I shall attempt a careful and fair exposition of the properties of the two classes, and the diseases in which they are respectively applicable, in such a manner that the general reader may be able to form his own opinions, and become tolerably well acquainted with both.

*North-Street, Ripon, May, 1842.*



## THE SULPHUR WATER.

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There is no water which, in its natural state, can be called chemically pure. Every spring contains more or less of atmospheric air, and of the various earthy products of the soil over which it runs. It is the nature and quantity of the impregnation with various Gases and Saline Ingredients which constitute a mineral or medicinal water; and the peculiar character of these determines its operation on the human body, in the treatment of various diseases. Now, chemical analysis, however important in a scientific point of view, and unquestionably necessary as it is to guide the medical practitioner, is rarely, in its minutiae, of much interest or consequence to the general reader. He may well be content to know that the Water he uses contains such and such salts and gases, without troubling himself about the grains and fractions of grains, and the cubie inches in the gallon—especially as these are not of a quantity

or volume to account for the effects produced, when regarded with reference to the general weights and measures of medicines.

And yet, perhaps there is nothing more curious in the medical history of mineral waters than this very minuteness of the quantity of active ingredients contained in them, taken in connection with their powerful operation upon the frame. From this circumstance some have imputed their efficacy merely to the large doses of water swallowed ; and of these was Proust ;—and others have attributed their activity to the very smallness of the quantity of their medicinal contents ; of these are the Homœopathists who, as might naturally be expected, seized with eagerness upon a circumstance which apparently so strongly favoured their singular theories. But it is not found, in justification of either of these opinions, that drinking a large portion of simple water will produce the same effects on the one hand, or that the exhibition of the like proportions of the same ingredients, dissolved in water in the common way, is similarly efficacious on the other ; and therefore we are compelled to admit that, in the instance of mineral waters, there is something in nature's chemistry which we can neither successfully imitate, nor thoroughly understand.

This is called, *par-excellence*, "the Harrogate Water;" not, as might be supposed, that it was the one first discovered at the place, but because it is of more general application than the others. Its principal characteristic is the abundance of Sulphuretted Hydrogen gas with which it is charged, and to which many of its medicinal qualities are attributable. The contents of a wine gallon of this water are (retaining the older names as the more generally understood) as follows:—

### ANALYSIS.

OLD SULPHUR WELL.		CROWN OR MONTPELLIER SULPHUR WELL.	
	Cub. In.		Cub. In.
Of Sulphuretted Hydrogen	14·	Of Sulphuretted Hydrogen	16·4
Carbonic Acid .....	4·25	Carbonic Acid .....	5·25
Azote .....	8·	Azote .....	6·5
Carburetted Hydrogen .	4·15	Carburetted Hydrogen .	4·56
Cubic Inches .....	30·4	Cubic Inches .....	22·8
Grs.		Grs.	
Of Muriate of Soda .....	752·	Of Muriate of Soda .....	735·
Muriate of Lime .....	65·75	Muriate of Lime .....	71·5
Muriate of Magnesia....	29·2	Muriate of Magnesia ..	29·2
Bi-Carbonate of Soda ..	12·8	Bi-Carbonate of Soda ..	14·75
Grains .....	859·75	Grains .....	864·25

The action of the Sulphur Water upon the body is both various and powerful, according to the quantity taken, and the state of the patient at the time. It operates as an effectual evacuant upon the whole length of the intestinal canal—its effects not being confined, as in

the case of the neutral salts to the smaller, nor, as with aloes, and other drastic purges, to the larger bowels. When it agrees with the patient, it does not nauseate or depress, like other purgatives; but rather, even during its operation, seems to enliven and exhilarate. It cleanses the stomach and bowels very effectually of that adhesive mucous secretion which so often occasions troublesome symptoms, and forms a material for the generation and harbour of the various kinds of worms which infest the human body. Dr. Neale, who wrote upon this water a hundred and fifty years ago, says, "It  
" kills and expells all sorts of worms, together with  
" that slime in the body which is their nest; wherein I  
" have found a round black speck like ink, which I am  
" certain they breed from, which being evacuated the  
" the persons were entirely cured and free from worms  
" many years after. And though the worms were car-  
" ried off, yet while the slime and these seeds continu-  
" ed we could not promise a full cure."

The Sulphur Water, further, acts powerfully although indirectly upon the liver—relieving congestion of that organ, and removing obstruction of the bile-ducts. In this manner it seems to influence and correct the secretion of bile itself—rendering it more copious, and of a

more healthy quality. It is equally beneficial in those cases of disordered function of the liver, characterised by a too redundant state of this secretion, as evinced by an unsettled and relaxed state of the bowels, griping pains in the abdomen, and occasional bilious vomiting, especially in the morning. I have seen many cases of this complaint which the use of this water speedily cured, although it appeared at first to aggravate the symptoms.

I am quite convinced that much confusion and obscurity is caused by popular writers on Medicine adhering to the arbitrary distinctions of anatomists in treating of the various organs. It is quite necessary, for the sake of precision in teaching, that we should point out where the stomach or other particular portion of the alimentary canal ends, and another begins; but, for general purposes, it is better to regard the whole as one organ, engaged in the performance, not of various functions, but of different processes of the same function; and then we shall the more easily understand how a disorder of one part of it affects the whole, and how the operation of a powerful agent, such as the Sulphur Water, upon the entire tube is so frequently useful in many diseases connected with it.

Of these the first and foremost must be reckoned

DYSPEPSIA or INDIGESTION, which may, indeed, be termed rather a series of diseases, than a disease. It consists of an imperfect and disordered action of the stomach, in the first instance, and as a consequence of this, a disturbance in the functions of the bowels. The train of symptoms attendant upon this state of things, is of a character not more various than distressing. The appetite is capricious and irregular ;—pain and feelings of distension are experienced after partaking, even of the most moderate meal ; heart-burn, nausea, and flatulence are constantly tormenting the patient after eating, while faintness, depression, and head-ache are his companions, if he fasts. The food received into the stomach is not properly digested ; and, as it would do, if deposited in any other warm and moist receptacle, its animal portion becomes rancid and putrid, while the vegetable part ferments and turns sour ; and both evolve a large quantity of unwholesome gas, which disturbs the stomach, stupifies the head, and produces uneasiness and discomfort throughout the whole system. The heart and lungs are closely connected with the stomach, by sympathy ; and are, in their turn, injuriously affected by its derangement. Hence asthma, shortness of breathing, a sensation of weight across the chest, palpitation, shoot-

ing pains, and sometimes a very formidable disease, called *Dyspeptic Consumption*, are frequent attendants upon indigestion. The Bowels, receiving from the stomach a crude and ill-digested mass, become disordered, and uncertain in the performance of their function ;—at one time, perhaps, torpid and sluggish, resisting the operation of powerful purgatives ;—at another irritable and relaxed, increasing the general weakness by frequent dejections.

The biliary system is also thrown out of order ;—the bile itself becomes impure and thickened, and passes with difficulty through the proper passages into the bowels; producing that sallowness of eye and complexion, so frequently observed in patients of this class ; or, being secreted in undue quantity, and of an acrid and irritating character, teases the bowels with spasmodic pains, griping, and frequent uneasiness.—Nor does the evil end here. The result of the process of digestion is a product called *chyle*, which is taken up by the absorbent vessels from the intestines, and collected into a receptacle, from which it is poured directly into the current of the circulating blood ;—thus renovating and supplying that fluid with the material necessary for the carrying on all the functions of the body. But, if the source from

whence this supply has to be taken is vitiated and impure ; if the chyle itself be imperfect, or unfit for its office; how can it be but that the blood receiving it, must also become imperfect and impure ; and circulating as this does through the whole of the system, what organ may not suffer from such a cause ?—Hence we find that head-complaints of various kinds arise, such as giddiness, dimness of sight, noise in the ears, attacks threatened or actual, of apoplexy, palsy, or epilepsy. Sometimes the skin is affected, and erisypelas, scorbutic eruptions, blotches, and sores present themselves. Sometimes the joints are subjected to gouty and rheumatic swellings ; and, even the bones and ligaments, insensible as they are generally, are not exempt from diseases produced by the impurity of the blood.

It is important to bear in mind that INDIGESTION is of two kinds; the one originating in, and chiefly confined to the digestive organs themselves; the other, arising from a relaxed state of the constitution, from causes acting generally. The former of these varieties is the one under consideration, and in which the *Sulphur Water* is a powerful remedy; the latter will hereafter be treated of, as requiring the employment of a different water, in conjunction with other remedies. Both these species, how-

ever, are accompanied, in many cases, by a long list of complaints, usually called *nervous*; a term which, too often conveying to the ignorant, something of an imaginary or unreal nature, is apt to be slightly thought of, and much neglected. To the patient, however, the malady though not to be detected by the pulse, or the aspect of the tongue, is quite serious and distressing enough to claim our pity, and tax our exertions for its relief. It induces lowness of spirits, often bordering upon melancholy; perpetual anxiety on the score of health, languor, and disinclination to exertion, fretfulness of temper, disturbed sleep, frightful dreams, and too often unfitness for the cares and duties of life. In the graphic words of Dr. Favell, “There is no palpable organic disease, but “ the different functions are oppressed and labouring;— “ the flush of health has left the cheek;—the limbs no “ longer possess their accustomed strength;—the mind “ has lost its elasticity;—weakness and depression are “ the only complaints we have;—weariness and lan- “ guor the experience of every day. Their very amuse- “ ments cease to be attractive; night finds them feeble “ and exhausted, and morning *unrefreshed*.”\* Such

\* Shakespeare, whose genius was not more splendid in its character than universal in its application, has not overlooked the symptoms of this kind of

patients will find certain relief and amendment from the use of the Harrogate Waters ;—but great care and judgment must be exercised in the choice of the one they employ ; for the symptoms indicating the causes of their complaint, namely, excessive or deficient action, are so few, and often so ambiguous, that much attention and judgment are necessary to detect them.

In further considering that disorder of the digestive organs in which the Sulphur Water is so efficacious, it will assist our judgment in the use of it, as well as in the choice of a proper diet at the time, if we direct our attention to the causes chiefly concerned in producing it. These will be found to be various in kind, but similar in effect, all attending to overtask, interrupt, or disorder that great function of the conversion of the food into blood, which we call digestion, and upon the due

complaint, which often, indeed, resembles, and sometimes leads to an affection of the mind itself—Hamlet says, “it goes heavily with my disposition that this “ goodly frame, the earth, seems to me a sterile promontory ; this most excel- “ lent canopy the air, look you, this brave o'er hanging firmament, this ma- “ jestical roof, filled with golden fire, why it appears no other thing to me than “ a foul and pestilent congregation of vapours. What a piece of work is man ! “ How noble in reason ! How infinite in faculties ! In form and moving, “ how express and admirable ! In action, how like an angel ! In apprehen- “ sion, how like a God ! The beauty of the world, the paragon of animals ! “ And yet to me what is this quintessence of dust ? Man delights not in me, “ nor woman neither !”

performancee, of whieh the health, nay, the very existenee of the struecture and material of our bodies must depend.

Perhaps the most frequent exeiting cause of this disease is the habitual eonsumption of too large a quantity of solid and liquid food. The habits of the present highly civilized state of society are indeed far removed from those of a state of nature. Four or five meals a day, each consisting in part of solids, and more than one of them, perhaps, of animal substanees, is more than digestive organs of ordinary powers are ealeulated to bear without injury, even if considerable exereise is taken in the intervals. But when, as frequently oeeurs, sedentary habits and pursuits are joined to exeeessive eating, derangement of the health must certainly follow. For a time, indeed, the power of habit, and the *vis conservatrix naturæ* may enable the system sueeessfully to contend against the outrages daily committed upon it; but at length the unnatural efforts required to digest such large quantities of food weary out the digestive apparatus, and weakness and disorder sueeed. The body, over-nourished, beeomes loaded with fat; elogged and impeded by this ineumbranee, the heart labours, and the bowels are oppressed. A considerable portion of the aliment passes, off un-assimilated; the urine is load-

ed with impurities, and a plethoric state of the circulation warns the patient of his folly and his danger. Frequently nature makes a powerful effort to relieve herself. Discharges of blood burst forth from the nose, the stomach, or the bowels ; or ulcers become established in various parts of the body, forming natural issues. Sometimes eruptions of various kinds, make their appearance upon the skin ; and, at length, the train of symptoms, which we have noticed as dyspeptic, compel the patient to pause in his career of self-indulgence.

Another frequent cause is connected with the state of the nervous powers. From the brain the digestive organs derive their vigour and activity ; and anything which disorders *its* function, must injure *theirs* at the same time. Hence we find that grief, anxiety of mind, the depressing passions, over-application to business, long continued study, and mental fatigue ; an immoderate and exhausting indulgence of the animal appetites ; late hours, and insufficient sleep are amongst the common excitants of this affection. To these may be added what very frequently accompanies many of them, namely, the habitual use of stimulating drinks, and narcotic drugs ; these have a two-fold operation ; first, directly upon the stomach itself ; and secondly, one equally direct upon the

brain and nerves ; in both, their effects are injurious to an extent little imagined. The feeling of exhilaration immediately following their use, and the frequent re-application of the stimulus blinds people to their deadly consequences ; and, in the language of Coleridge, (himself an opium eater), “they fly for relief of their sufferings to the very cause that re-produces them.” The late Dr. Birkbeek, (whose pupil I was for three years), believed that in all cases of indigestion of this character, there existed sub-acute inflammation of the mucous membrane, lining the stomach and duodenum, and to remove this, was the object of his treatment.

In many instances some one symptom is particularly troublesome ; such as heart-burn, flatulence, acid eructations, choleric pains, or costiveness. Piles are often exceedingly distressing ; and often the patient is constantly annoyed with a sensation of tightness round the region of the belly, and pains in the muscles of the limbs, and back. Occasionally the liver is chiefly affected, and obstruction or suppression of the bile, indicated by a yellow jaundiced hue of the skin, and white clay-coloured stools, is the prominent complaint. But in all these cases the action of the Sulphur Water upon the bowels and kidneys is eminently serviceable, although it often requires to be

accompanied with the exhibition of medicines adapted to the individual case.

HYPochondriasis is another disease which is generally relieved by the judicious use of this water. This is an affection so compounded of bodily disorder and mental hallucination, that it has for ages puzzled nosologists whether it should be defined as a disease of the body or mind. The very name, derived as it is from the ancients, clearly proves their opinion to have referred it to the former;—which is further confirmed by the word melancholy, which signifies literally *black bile*. The corporeal symptoms generally present in hipped patients are costiveness, copious and pale urine, acrid eructations, flatulency, wandering pains of the head and other parts, dizziness, dimness of sight, palpitation of the heart, and listlessness.

As to its mental phenomena they are almost infinitely diversified. Low spirits, weariness, pcevishness and discontent; suspicion, mistrust, and dissatisfaction are its general attendant miseries. Burton in his “Anatomy of Melancholy” has well described the state of mind which is the wretched lot of those who suffer from this terrible disease. “They are soon tired with all “things;—they will now tarry, now be gone; now in

“ bed they will rise, now up, then go to bed, now pleased  
“ and again displeased ; now they like, by and by dislike  
“ all, weary of all ; *sequitur nunc vivendi nunc moriendi*  
“ *cupido* ; discontented, disquieted, upon every light  
“ ooeasion or no oecasion objeet ; often tempted to make  
“ away with themselves ; they cannot die, they will not  
“ live ; they complain, weep, lament, and think they lead  
“ a most miserable life : never was any man so bad.  
“ They are testy, pettish, peevish, distrustful, apt to  
“ mistake and ready to snarl upon every oeeasion  
“ and without any cause with their dearest friends.  
“ If they speak in jest, the hypochondriae takes it  
“ in good earnest ; if the smallest eeremony be acci-  
“ dently omitted, he is wounded to the quiek. Every  
“ tale, diseourse, whisper, or question, he applies to  
“ himself. Or if the eonversation be openly ad-  
“ dressed to him, he is ready to misconstruct every  
“ word ; and eannot endure that any man should look  
“ steadfastly at him, laugh, point the finger, cough, or  
“ sneeze. Every question or movement works upon  
“ him, and is misinterpreted, and makes him alternately  
“ turn pale and red, and even sweat with distrust, fear,  
“ or anger.” To all these and such as these manifes-  
tations of mental irritability, there is always added an

incessant anxiety and apprehension on the score of health. Every symptom is watched, magnified, and dwelt upon. One medical man after another is consulted; drug after drug is used and thrown aside. Diet and medicine form the daily occupation and care. The most preposterous and ridiculous fancies take possession of the mind. One man fancies that he is made of glass, and dares not stir a finger lest it should snap off; another imagines that his body is of such enormous bulk that he cannot pass through the door; a third, like the baker of Ferrara mentioned by Donatus, thinks himself to be a lump of butter, and dares neither sit in the sun, nor approach the fire, for fear of being melted. I was myself consulted some years ago by a gentleman who entertained a firm conviction that he was a book; or, as he himself expressed it, "a work," and the only matter that perplexed him, and upon which he seriously asked my opinion was, "whether he was in one volume or two."

Absurd and whimsical as the fancies of hypochondriacs are, it is of no use to attempt combating them by reason, or argument, and still less to assail them with ridicule, or treat them with contempt. The mode of treatment to be employed is to sooth and occupy the mind, and to obviate the bodily ailments as they prevail. The Sul-



phur Water of Harrogate is perhaps the best known remedy for the latter purpose; especially in relieving that obstinate costive habit of body which always prevails, and which, as noticed by Dr. Thomas, is less liable to return after their use, than when the resinous and drastic purgatives have been employed; while the former indication is well answered by the change of scene, agreeable excitement, and many objects of interest which a fashionable watering place like this offers to the attention.

Hyphochondriasis forms, as it were, the extreme link of the long chain of affections generally called "nervous complaints." These, under various modifications, compose a large proportion of the diseases presented to the observation of the medical practitioner. Sydenham, at the close of the seventeenth century, computed fevers to constitute two thirds of the diseases of mankind. But in the nineteenth we may safely venture to assert, that *nervous disorders* have taken the place of fevers, and may justly be reckoned two thirds of the whole with which civilized society is afflicted. Dr. Cheyne, who wrote a hundred years ago, in his work entitled "The English Malady," makes nervous disorders almost one third of the complaints of people of condition in England; from which

we may with propriety infer that they were then little known among the inferior orders. But nervous ailments are not now confined to the higher ranks, but are spreading rapidly with the extension of knowledge and luxury among the poorer classes. Various causes, physical, moral, and political, have contributed to this increase. The highly artificial state of society, the intense application to business, the anxieties of competition, the use of stimulant and narcotic substances, increased luxury in diet and dress, impure air and sedentary habits have all had their influence in bringing about the augmentation of nervous suffering.

To those known as nervous must be added several others called bilious, or stomach complaints, vapours (the name is out of fashion, but not the thing), low spirits, or the being, as it is called, "in a low way". These are all exceedingly well defined by Dr. Trotter in language which will portray them so as to be readily recognised by the reader of any experience in the world.

"Nervous feelings, nervous affections, or weak nerves," "he says, "though scarcely to be resolved into technical language, or reduced to a generic definition, are in the present day, terms much employed by medical people, "as well as patients, because the expression is known

“ to comprehend what cannot be so well explained.  
“ An inaptitude to muscular action, or some pain in  
“ exerting it; an irksomeness, or dislike to attend to  
“ business and the common affairs of life; a selfish desire  
“ of engrossing the sympathy and attention of others to  
“ the narrative of their own sufferings, with fickleness  
“ and unsteadiness of temper, even to irascibility, *and*  
“ *accompanied more or less with dyspeptic symptoms* are  
“ the leading characteristics of nervous disorders, *to be*  
“ *referred in general to nervous debility, increased sensi-*  
“ *bility, or torpor of the alimentary canal.* (Medicina  
“ Nautica, Vol. iii).” In all these, except such as are  
the result of direct debility, (and which will hereafter  
be treated of in connection with the Chalybeate water)  
the Sulphur water is a most powerful and direct remedy;  
cleansing the body of its crude and noxious secretions;  
correcting its disorder'd functions, and invigorating the  
nervous system and the powers of the mind in a man-  
ner hardly to be credited by those who have not observed  
its effects.

THE DISEASES OF THE SKIN next deserve our at-  
tention in considering the curative powers of the Sul-  
phur water. They have long been the *opprobrium me-*  
*dici*, as well from their varied and complicated character,

which renders classification and definition very difficult, as from the imperfect and uncertain effect of medicines upon them. Of late much has been done in this, as in other departments of medical science; but the treatment of these diseases is still empirical and often inefficient. Hence the pages of our newspapers teem with advertisements of quack medicines professing to cure them; the active ones generally composed of dangerous and deleterious minerals, the rest of no effect, good or bad; and all having the recommendation of amusing the minds and lightening the purses of the credulous public.

It does not appear to me that the physiology and pathology of the skin have yet received that attention which its extent and importance as an organ demand. Its close connexion with many vital organs is easily demonstrated. The sudden difficulty of breathing occasioned by plunging into cold water shows how intimately the lungs sympathise with it. Often after eating shellfish, or some other kind of food which disagrees with him, a man will be covered in a short time with nettle-rash from head to foot; thus indicating the sympathy of the stomach with the skin. Again, it is obviously closely connected with the brain and nerves. The first symptoms of fever are shivering, chillness of the surface, fol-

lowed by burning heat, and this succeeded by profuse perspiration. And in extensive burns and scalds, where the injury is spread over a large portion of the skin, the nervous system gives way, and the patient sinks at once. Dr. Cullen considered what he called “spasm of the extreme vessels” to be the cause of fever and inflammation.

The Mucous Membranes which line, as it were, the eye, ear, nose, mouth, throat, stomach, and bowels, and the urinary apparatus, are nothing more than a continuation of the skin, modified as to its structure, to suit the difference of place; or it would be equally correct to state that the skin is a continuation of the mucous membranes, more firmly and closely wrought, and protected by the cuticle. Here we see an explanation of the circumstance that disorder of the stomach so commonly produces, not only affections of the eyes, ears, mouth, and nose; but also of the skin itself; insomuch that it is very rare for us to find any considerable skin-disease, without some disorder of the digestive organs. The skin is also one of the great emunctories of the body; a scavenger of the system.

A quantity of fluid continually transudes through the skin, sometimes wholly disappearing by evaporation, and sometimes collecting as a liquid upon the surface of

the body. In the former ease it is termed the *insensible perspiration*, and in the latter the *sensible perspiration*. The experiments of Seguin and Lavoisier show that the quantity of the insensible perspiration amounts to about to about 660 grains every hour; and this without taking into account the *sensible perspiration* induced by increased temperature or exertion.

The diseases of the skin spring, in some instances, from obstructed perspiration; sometimes from other causes, but most frequently from indigestion or some of its attendant maladies; they have been but imperfectly classified and described by the older writers. Sauvages and Willan have much improved this branch of medieine; and the magnificent work of Dr. Willis, published in 1840, has presented us with coloured representations of the various skin-diseases, which cannot fail to be generally useful. The orders under whieh Dr. Willan has ranged diseases of the skin, are natural ones, and answer every general purpose. He enumerates seven kinds; pimples, scales, rashes, vesicles, pustules, tubercles, and spots.

These are subdivided into various classes, but it will suffice for our present purpose, that we specify those in which the Sulphur Water is applied, and drank with benefit:—

*Pimples.* 1.—**LICHEN**, (eruption in the spring, from Heat).  
2.—**PRURIGO**, (pimples which rise with great itching).

*Pustules.* 1.—**SCABIES**.  
2.—**IMPETIGO**,\* a (running scab).  
3.—**ECTHYMA**, (an ulcerated tetter).  
4.—**PORRIGO**, (ring-worm of the scalp or scald head).

*Rashes.* 1.—**URTICARIA**, (nettle rash).  
2.—**ROSEOLA**, (rose rash).  
3.—**PURPURA**, (scorbutic rash).  
4.—**ERYTHEMA**, (red rash).

*Vesicles* 1.—**HERPES**, (tetter and shingles).  
2.—**ECZEMA** (heat eruption).

*Scales.* 1.—**LEPRA**, (leproses).  
2.—**PITYRIASIS**, (branny scales).  
3.—**PSORYASIS**, (the scaly tetter).

*Tubercles.* 1.—**LUPUS**, (noli me tangere).  
2.—**PHYMA**, (boils and carbuncles).  
3.—**ACNE**,† (stone-pock).

In all the varieties of skin-complaints ranged under these heads, numerous, complicated, and diversified as

\* “In the drier and less irritable forms of the impetigo, the use of the Waters of Harrogate is the most effectual remedy, and likewise the best preventative of its returns.” HOOPER,

+ The acne rosacea is that eruption of the face, which is called by the French *couperose*, by the vulgar *coppernose*, and sometimes “*grog-blossoms*” as being frequently associated with, and produced by intemperance. It has afforded subject for wit, from the days of Bardolph, (who, like the admiral’s ship, carried a lantern in his poop, and saved his master, the jolly Sir John, an hundred marks a year for torch light); to those of the facetious Boz, who invests the Reverend Mr. Stiggins with the same rubicundity of feature, and bestows upon him the soubriquet of “the red-nosed man,” as an appropriate accompaniment to his attachment to pine-apple rum. Peter Pindar introduces this peculiarity, in his description of the Landlord in *Orson and Ellen*.—

they are, the Sulphur Water presents us with a powerful auxiliary to medical treatment, and often a means of cure. It is a powerful and active remedy in such cases, because the Sulphur in the attenuated form which it assumes, in combination with Hydrogen Gas, is conveyed to the smallest vessels. In these cases its external application, both as a lotion and a bath, should be employed ; in which form it is of great service, not only from the direct contact of the Sulphur with the skin, but also from the stimulant power of the neutral salts contained in the water, and their cleansing powers upon the affected surfaces. The same properties render the

“ The Landlord had a red round faec,  
Which some folks said in fun,  
Resembled his red Lion’s phiz,  
And some the rising sun.

The Landlord was a boozier stout,  
A snuff-taker and smoker ;  
And twixt his eyes a nose did shinc,  
Bright as a red hot poker.

Were gunpowder upon it put,  
No flint it would require ;  
Nor steel, to make the sable grains,  
Flash off in sudden fire.

Thus, when we see a nosc so red,  
It is as daylight clear ;  
That ruby nose is not maintained,  
On water or small beer.”

The disease is not always, however, produced by intemperance ; for many highly exemplary and pious persons of both sexes occasionally suffer from it. It is exceedingly obstinate in its character, and difficult of cure.

Sulphur Baths of Harrogate highly remedial in gouty swelling, diseases of the joints from this or other causes ;—chronic pains from gout or rheumatism; contractions, neuralgic affections, hip diseases, and other local ailments. And it will be easily understood upon a review of the remarks already made upon the importance and functions of the skin, that a means of affecting it so potent and so appropriate as the warm Sulphur Baths, must render them applicable and useful in a vast range of diseases, internal as well as external. Before we take leave of the subject of skin-diseases we may be permitted to say, that many of them are of the greatest injury to the interests and comforts of those affected with them ; very changeable and uncertain in their nature, and unaccountable as to the effect of medical treatment upon them. Not only are they variable in the appearance of the same surfaces at different stages of the disease, but the same medical means, which to day relieve, to-morrow may aggravate the symptoms. The different kinds run into each other ; and it is nothing uncommon for the same limb to present to the eye a combination of papular, vesicular, and pustular eruption, which would defy the classification of the most acute observer. But this we are justified in saying, that Harrogate offers facil-

ties and advantages in the treatment of these complaints, which cannot elsewhere be obtained. Where there is excess of action, or any digestive disorder, the Sulphur Water is at hand ; possessing the double recommendation of being a powerful external agent, as well as an internal medicine. Where there is general debility or weakness of the circulation, with loss of tone in the vessels ; the various chalybeates, diversified in kind and power as they are, can be had recourse to. The climate of Harrogate is also highly favorable to the welfare of the patients. In situation high and dry, unshaded with wood, and uncontaminated by effluvia, whether marshy or of smoke ; Harrogate has the advantage of the purest air which this kingdom affords. Its inland position secures it from those keen blasts, which so often seem to cut delicate people to the bone, as it were, on the coast ; while its open aspect as a plain prevents those partial currents of air which the neighbourhood of great hills is apt to occasion. The other departments of treatment, such as the use of medicines, and attention to diet can be as fully attended to here as any where else. So that here we have a combination of remedial means at hand, rarely to be met with at any one place, or to be accessible at any one time. These observations

apply with equal force to the other diseases which have passed or have to pass under our notice. Fashion may point to this or that spa for a summer excursion, and fashionable physicians may puff this or that spring into an ephemeral notoriety ; but, omnipotent as she is, neither the fickle Goddess nor her satellites can play tricks with the laws of nature, alter the character of diseases, nor of the remedies adapted to their relief. These do not change with changing caprice ; and the only effect, therefore, that time can have upon the reputation of these waters will be, to extend and establish it.

The Sulphur Water further, is always useful in those diseases, the symptoms of which indicate a loaded and plethoric state of the system, or denote excessive action, either local or general.

The intelligent reader will at once recur to these as consisting of chronic inflammations of various organs, whether of those called vital, or of the less important ones. Glandular swellings,\* sore eyes, ulcers, head-ache, piles, fistulæ, and tumours are benefited by its use. Its range of application is so extensive as to preclude the

\* The small portion of Iodine which this water contains, no doubt adds greatly to its efficacy in serofulous disease generally, and especially in those forms of it characterised by enlargement of the glands.

possibility of giving even a catalogue of every disease in which it may be employed. It has been attempted, rather to lay down general rules, and advance such considerations as will explain the rationale of its use ; leaving the reader to draw those inferences which a fair knowledge of its properties and uses will suggest, than to furnish such a list. And after an attentive perusal of what may further be advanced, it is hoped that a person of tolerable judgment will be furnished with a pretty full and accurate knowledge of the whole subject. And, if this should be the case, it would matter little that any particular complaint had not been mentioned by name ; because such information will have been imparted, as will enable the person to judge, with all useful precision, what particular water will be likely to suit his case ; and what are the general principles he must observe in treatment and diet. In reference to diet it will best suit my plan and the limits of this work, to reserve my remarks upon it for a separate section, which may comprehend such considerations as regard all the Waters of Harrogate ; and point out, in like manner, such general principles as shall enable the invalid to form his own opinions. It therefore, only now remains that we subjoin the necessary directions for the use of the Sulphur Water, in reference to its mode, quantity, and time.

## DIRECTIONS FOR USING THE SULPHUR WATER.

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An early hour in the morning, before breakfast, is generally speaking, the best time for drinking this water. The patient should not, however, rush from his bed to the well; but should previously amuse or employ himself awhile, that the energies of the system may be fully aroused. If he resides at a distance from the well, he should be careful not to heat himself by walking too quickly, nor fatigue himself before drinking. Walking exercise, however, is much preferable to riding on this occasion; and should be continued in the intervals of taking the water. The proper quantity to be drunk at once is about half a pint (or a common tumbler-glassful) which should be repeated, at intervals of from fifteen to twenty-five minutes—the interim being employed, as before mentioned, in taking gentle exercise on foot. The dose must be repeated twice, or three times, according to its effect. Some persons may be briskly moved by one glass—two are more generally required;

and in some cases, when the bowels are torpid, three. The patient must not, however, be disengaged if, at a first trial, even this quantity should not be effectual. In such cases, indeed, it would be advisable to employ some simple purgative pill over-night; or else to add a tea-spoon-ful of Epsom or Glauber salts to the first glassful, rather than distend the stomach with so large a quantity of liquid.

In many constitutions the water will act both more pleasantly and more efficiently when warmed by the addition of a little of the same water heated, and added to the dose. This, indeed, is often necessary in delicate persons, and those especially who suffer from headache and eruptions after drinking it cold. The dose of a quarter of a pint recommended by Dr. Granville is too small, when the object is to purge briskly, notwithstanding his notion about that being the precise quantity the stomach can get rid of in twenty minutes; and as to the slight degree of nausea and uneasiness sometimes caused by a large quantity, it should be remembered that purgative draughts, whether from a mineral spring, or a chemist's shop, are not precisely the kind which furnish gratification at the moment, either to the palate or the stomach. It is quite marvellous that a

reflection so obvious should have escaped one whose three weeks' experience and observation enabled him, with a modesty peculiarly his own, to correct and improve upon Mr. Richardson's practice; and, at the same time to make the discovery that "cold winds and frequent showers render Harrogate ineligible as a residence in July for people of 'gentle blood.' " The truth is, that a visit to this place, either in May or June is very desirable, and even more beneficial than at any other time, for vast numbers of patients whose complaints are of the kind usually excited by the return of spring, or the influence of hot weather. As it is not the mere coldness of the evening air, but the combination of cold with damp that is hurtful to invalids; and as the air of Harrogate is remarkably and proverbially dry, those patients need entertain no apprehension of injury from an early visit, in spite of Dr. Granville's assertions, or his correspondent's lean wit about "red noses and livery hats" In fact, so much of the Northern Tour as relates to Harrogate, though amusing enough, as a very frothy species of literary gossip, is by no means to be regarded as an authority in matters of so serious a nature as health and disease.

It should be remembered, that no directions that can

be given, will be of universal application; because peculiarities of case and constitution must obviously require different doses to produce the same effect. In administering the common purgatives, it is well known that one patient will require much larger doses to ensue a full operation than another; and the same remark holds good with respect to this water. So that the patient must be left, in some measure, to judge for himself, for he will readily understand that the measure which insures the full effect, with the greatest ease and comfort, is that which he should adhere to.

In those cases, where there is any deficiency in the biliary secretion, there is great advantage in taking, on the preceding evening, some mild mercurial preparation, such as five or six grains of "Plummer's pill," or a couple of pills made with equal parts of the blue pill and the compound rhubarb pill. These gently stimulate the liver, and produce an increased flow of bile into the bowels, which is carried off, on the following morning, by the sulphur water.

In eruptions of the skin, after the full purgative effect of the water has been once obtained, it is useful to drink it in such a manner as to keep up an alterative action. This is done by taking a small tumbler-glassful three

times a day;—early in the morning, about noon, and at seven or eight in the evening. It is proper, in many of these cases, to combine the “Plummer’s pill” in five grain doses, every other night, with the alternate doses of water. Nor does the use of the latter prohibit the employment of many other medical means calculated to relieve or remove the disease of the skin. The length of time the use of the water should be continued must, of course, vary with the strength of the patient, the obstinaey of the disease, and many other circumstances. It is well known, however, that the purgative action of mineral waters can be longer kept up, with less ensuing debility, than that of any other laxative medicines. Indeed it often happens that persons who were feeble and languid at the commencement, grow stronger and more active under their use; and many, when habit has reconciled them to the offensive smell and flavour of the water, feel immediately refreshed and invigorated after the draught. In short, the patient is certain of improvement in his health, from his visit to Harrogate, if, mindful of the old saying, he will keep his head cool with temperance, and his feet warm with exercise; while he keeps his bowels open with the sulphur water.

## THE BATHS.

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From what has already been said of the importance, extent, and susceptibility of the skin, it will be readily understood that applications to its surface must produce considerable effects upon the system. Thus we find that bathing, especially, has for ages been resorted to for the purposes of luxury and medicine; and, modified according to the ease and strength of the patient, has held an important place among the remedies employed for the cure of diseases. Baths are called simple and medicated—hot, warm, tepid, and cold, according to the different temperature employed; and each has its appropriate mode of use and range of application.

The objects and limits of this work will confine our remarks chiefly to the warm bath, which ranges from 86 to about 100 degrees of Fahrenheit's Thermometer. It is commonly desirable to try the first bath at about 96 degrees, increasing or diminishing the heat afterwards, as it may be borne by the patient. Its effect is to increase the secretion of the skin, and promote the

sensible perspiration. It gives softness and flexibility to the museles, augments the various secretions of the body, elevates the spirits, imparts aetivity, and promotes the health of the system. Merely regarded as a means of preserving the cleanliness of the skin, and ensuring the full operations of its functions, it presents a powerful auxiliary to the preservation of health.

From the experiments of Dr. Parr, it does not appear, that with care and attention, there is anything to be apprehended from the stimulating effects of the warm bath, under 102 degrees ; and he does not think it possesses much peculiar or appropriate power under 94. He tried its effects at 96° 98° 100° 102° 104° and 106° of Fahrenheit.

At 96 degrees the pulse was at first slightly quickened, but soon became natural ; the breathing, at first a little more rapid, soon became free and easy, and but little change was produced in the heat of the body.

At 98 degrees, the pulse was slightly increased in quickness, and did not subside ; but there was no increase of heat. There was no sweat, the secretion of the kidneys was not increased ; and after some time, the pulse became slower than before the bathing. At 100 degrees the pulse increased twelve beats in the

minute; the breathing was much affected; the face red and swollen; and a copious sweat broke out; the cuticle was wrinkled; the heat was raised about two degrees, and after ten minutes some degree of faintness came on. After a short time every disagreeable symptom vanished; the pulse sinking a little below its natural standard.

At 102 degrees the pulse was soon raised from 68 to 100, and in ten minutes the sweat on the face was copious, the vessels swollen, the skin not wrinkled—and the heat of the body raised four degrees—a beating noise was heard in the head; and, in half an hour giddiness came on. When laid between blankets, the sweat was copious and free, and the pulse soon became natural.

At 104 degrees all these appearances were more striking and rapid; vertigo coming on at the end of about twenty minutes put an end to the experiment.

At 106 degrees the effects came on still more quickly and violently; the faintness and sickness supervened more easily; the sweat was more copious; but the increased frequency of the pulse did not subside for half an hour.

So that it would appear that the warm bath exceeding 100 degrees of temperature, powerfully determines to

the head and chest, and should be used with caution when the contents of either are affected. It should be remarked, however, that persons vary very much; as to the effects of heat upon them—some of the sanguine and excitable temperament, being affected with a lower degree than is required to produce the same result upon another of a colder and more phlegmatic temperament.

The object here is, not to produce an immediate, sensible, and violent effect upon the system, but gently to relax the skin—cause an increased action in the vessels of the surface—to solicit the circulation of the blood to the surface and extremities, and induce a gentle perspiration.

It has been generally supposed that there is great danger in coming from the bath into cool air; and certainly, to use some degree of caution in this respect, is to keep on the safe side. The danger, however, has been much exaggerated; because the excitement of the circulation and temperature thus raised, will obviate the bad effects of a considerable degree of cold. The Russians and Swedes, after using baths of very high degrees of heat, roll themselves in snow with impunity; and though this impunity may be, in some degree, with them the result of habit, yet it may serve to shew that no great

apprehension is to be entertained from this source.

These general considerations upon the warm bath, will prepare us for what has to be said respecting the Sulphur baths of Harrogate. To the general action of warm water upon the body, they offer the additional advantages of the stimulant powers of their saline contents, and the peculiar action of their gases upon the skin, and the system at large. So that, as a remedial agent, the power of the sulphur bath is vastly superior to, and more powerful than the simple warm bath. It more effectually excites the action of the capillary vessels, in skin-diseases, obstruction of which was probably the first cause of the complaint. Its gases are absorbed both by the skin and the lungs, permeating every part of the body, stimulating the various structures, and increasing their secretions.

The baths are to be regarded as powerful assistants to the internal operation of the Sulphur Water, in all those diseases which we have already enumerated. In the complicated and varying forms of indigestion, hypochondriasis, bilious and liver complaints, their action is highly salutary. The sympathy of the internal mucous membranes of the stomach with the skin has already been alluded to ; and in nothing do we see it more ap-

parent than in the action of medical means. Thus several substances, which, in certain doses, produce vomiting, in other and smaller doses, act upon the skin as sudorifics—such as ipecacuan, tartar emetic, &c. And in a manner analogous to this, though we cannot explain precisely how, we know the action of the warm sulphur baths to bear powerfully upon the digestive organs, and to co-operate effectually with the internal use of the water in relieving their diseases. Whether there may exist a set of vessels beyond the ken of the anatominist, which are only accessible by the absorption of vapour by the lungs, or water by the skin ;\* and which are thus beneficially influenced in abdominal complaints ; or whether the nervous relations between the external and

\* Professor Berthold has recently repeated M. Seguin's experiments upon the absorption of water by the skin in bathing, with a result different from his. It was Seguin's opinion that no absorption took place, and that the weight of the body was not increased by immersion in water. Professor Berthold's experiments were made in August 1835, (by carefully weighing himself in scales which would turn with less than a dram,) four hours after a meal taken in the middle of the day, and varied only in respect of the time while the immersion continued.

In a quarter of an hour he gained in weight three drachms ; in three quarters of an hour, seven drachms and twenty grains ; and in an hour, an ounce and half a drachm ; so that, taking the loss of weight which was taking place by pulmonary exhalation at seven grains per minute, (which is the calculation of Seguin,) the real increase of weight in the bath was, four drachms thirty-five grains in a quarter of an hour, and nearly two ounces in the hour.

internal surfaces of the body produce the effect, it is impossible to say ; but it is very certain that these patients are much benefited, and their health improved by the outward application of this water, conjoined with its internal use.

The same causes, whatever they may be, may assist its known efficacy in local diseases, though in these cases, as has been before hinted, much must be imputed to the stimulant and specific action of the combination of Salts with Sulphur. In *chronic rheumatism* it is of undenial utility, whether it affects the joints merely, or ( as I am convinced it does in many instances) the ligamentous connections of the spine, and the tendinous portions of the muscles. A much more extensive class of complaints should, in my opinion, be reckoned under this head, and as indicating this treatment, than has yet believed. For instance, how often do we find patients complaining of pains in the chest, side, or back, increased in breathing or by motion, which are nothing more than rheumatic affections of the muscles of those parts; and which require neither the tender mercies of the lancet, nor the heroic employment of the antiphlogistic regimen; but rather, warm stimulant baths and anodyne liniments. Some discrimination however is necessary

to detect and separate these affections from the important internal diseases which they simulate; and the safest plan is for such patients to consult a medical man at once. However, if there is no general illness beyond the local pain; no fever, increased frequency of the pulse, or chilliness, it is probable that nothing more serious is the matter.

In hip-disease, and indeed diseases of the joints generally, especially those of a chronic kind; in contractions and chronic swellings of the limbs, which are not accompanied or caused by actual alterations of the structure of the parts, *beyond the contraction or swelling*, this water is useful. It is of great efficacy in diseases and disorder of the kidneys and genito-urinary organs; especially those affecting their mucous surfaces. And in spinal complaints the warm baths of Harrogate will often afford relief from suffering; and in combination with other means, an improvement in the condition of the patient beyond all rational expectation.

The Warm Sulphur Baths are particularly beneficial in all the external ailments of patients afflicted with SCROFULA or "Kings Evil." Sores and ulcerated surfaces, which could not otherwise be healed, or often if they are healed, only seem to alternate with some inward

complaint, are wonderfully benefited by the combined effects of drinking and bathing in this water. This disease, so frequent in its occurrence, and so various in its modes of shewing itself, is often at the bottom of many anomalous symptoms, which obstinately resist the most judicious employment of ordinary medical means. It is often unsuspected alike by the patient and his medical adviser, from the fact that, like other hereditary diseases, it frequently skips over one, two, or more generations, and breaks out in a subsequent one; thus complicating and rendering more difficult of cure the accidents or ailments with which they are affected. This may perhaps be one reason why such patients frequently find speedy and unexpected relief from a visit to Harrogate, which they had in vain sought before from the usual treatment.

The SCURVY is another complaint which deserves separate mention as one to which the use of these baths is almost uniformly serviceable. The earliest reputation of this water was principally derived from its efficacy in this respect. It originates in impurity of the blood, and if we were to trace this impurity, we should be carried back to derangement of the digestive organs again. One of its first effects is debility, and an imperfect performance of the functions of the skin; manifested by

deflcient perspiration. The stimulant effects of the combination of salt and sulphuretted hydrogen, whieh this water eontains, invest it with great power and efficacay in the seorbutie varieties of skin diseases in particular, and in that vitiated state of the fluids generally from whieh these eommonly arise.

Dr. George Neal, Senr., in his *Spadacrene Eboracensis*, written in 1656, (a fragment of whieh only as been preserved), has the following passage. “ Now as to the “ external eures performed by this water they are so “ many and various as searee to be enumerated; only I “ shall give some short hints of what I have seen it do. “ It is now thirty years ago since I set up first warm “ bathing in this water, and proeured one such vessel for “ a pattern as are uscd beyond sea for that purpose ; “ and now there are beyond twentу bathing-houses “ kept here, with all necessary eonveniences, and all full “ employed in the season. And several who have visited “ both *the bath* in Somersetshire and this, have freely “ owned they have reaped more benefit from the last “ than the first. This bath does much good in aches, “ pains, bruises, strains, lameness in the limbs, weakness “ of the back, from scurvy, cold, and wct especially ; in “ a dropsy in the beginning threof; for paralytic pains

“ and weaknesses, if the parts have not been long weak-  
“ ened, the solids emaciated, and the spirits exhausted  
“ thereby.” In this case he recommends sage, laven-  
der, sweet marjoram, and other herbs to be boiled in the  
water, as was the custom of the older physicians. “It is  
“ good” he continues, “in the sciatica (or hip-gout) and  
“ gout, pains of the hands, feet, and legs, strengthening  
“ and restoring the parts. Bathers go into it mode-  
“ rately warm at first, and increase it by degrees, as the  
“ patient sweats. But weak persons can neither bear  
“ it so hot, nor sweat so much as strong people. Such  
“ as have complaints or aches in the head or neck  
“ have some warm sulphur water poured on the back  
“ part of the head, before they come out of the bath,  
“ and then the parts are well rubbed with a warm cloth.  
“ They should not go into the bath too hot at first: for  
“ it puts them into a violent heat and sweating, makes  
“ them so faint and sick, that they are forced to come  
“ out, and so lose the benefit of the bath—if no greater  
“ mischief. Neither should they go in with a full  
“ stomach. If they bathe in a morning let them eat a  
“ little gruel, or broth, or a poached egg, or something  
“ of light and easy digestion an hour or two before they  
“ go in; but if they dine, they must not go in for four

“ hours after. Some prefer bathing at night, and if  
“ they have eat a light supper, and stay at the bathing  
“ house all night to prevent catching cold, they lose no  
“ time for drinking the water next morning.”

These observations and directions subsequent experience has confirmed and sanctioned. The warm bath should be used every day or every other day as the case may require ; but generally every second day is often enough. The best time is either the middle of the forenoon or the evening, when the stomach is not encumbered with solid food. The time of remaining in the baths must vary from one to three-quarters of an hour; especially regarding the feelings of ease or discomfort experienced by the patient during its duration. If the weather be warm and dry, exercise should follow the use of the bath, to keep up in the body the action induced by it ; but if the weather be cold and damp, it is better that the patient should be occupied in a warm room, or if at night, retire to bed, than undergo any unnecessary exposure.

## THE CHALYBEATE WATER.

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In transferring our attention from the Sulphurous to the pure Chalybeate springs of Harrogate, we cannot but be struck with surprise, that two medicinal waters so powerful in their kind, and so opposite in their character, should be found so near to each other. The former is, as has been stated, evacuant and relaxant; the latter is tonic and astringent in its operation. The former is applicable to diseases of plethora and increased action; the latter is available in cases of direct debility, and deficient action. As most of the chronic ailments to which the human body is liable, can be referred to the one or the other of these conditions; so has the bountiful and merciful Creator furnished us, by the hand of nature, with the means of alleviating both.

This water is supplied in great abundance by two springs on the Common at High Harrogate; the one called "the Old or Sweet spa," the other "the Tewit well" from the circumstance of the birds called Tewits

or lapwings frequenting the spot. These two springs are so nearly alike in their chemical composition, and so identical as to their effects upon the body, that there could be no good end answered, especially in a short treatise like this, in treating of them separately. The reader may, therefore, consider that the observations here made, are applicable to water taken indifferently, either from the one or the other. Their solid and gaseous contents are as follow, in the gallon:—

OLD SPA.		TEWIT WELL.	
<i>Solid Contents.</i>		<i>Solid Contents</i>	
	Gr.		Gr.
Oxide of Iron.....	2.5	Oxide of Iron .....	2
Carbonate of Lime .....	7.5	Earthy Salts.....	8
<i>Gases.</i>		<i>Gases.</i>	
per cent.		per cent.	
Carbonic Acid Gas.....	45	Carbonic Acid Gas.....	43
Nitrogen .....	51	Nitrogen .....	50
Oxygen .....	4	Oxygen .....	7

I may here observe that it is highly probable that the two waters are in reality the same, and that the very trifling difference observable in the analysis, is to be attributed to some difference in the mode of conducting it; or some cause over which the chemist had no control. However this may be, the distinction, if real, is not considerable enough, in a medical point of view, to require any separate attention.

The medical action of these, as of all pure chalybeate

waters, is allowed by all to depend upon the Iron combined in them with an acid. In its metallic state, Iron does not exert any influence upon the body; but even when administered in this way, as was customary with the ancients, it has become oxidised by the acid met with in the stomach, and in this manner has exerted its peculiar powers upon the system. It requires to be subjected to the action of an acid, before it can be useful as a medicine. So far as our knowledge extends, it is very probable that the action of all the metals (except, perhaps, lead) is of a strengthening kind; but Iron possesses this power in a kind and degree, infinitely exceeding the rest, and is, in its virtues and qualities, much more appropriate as a medicine of this sort, than any other. It was believed by the older writers, and strongly insisted upon by Boerhaave, that iron is much more nearly allied to the animal fluids than any other metal; and that it could be almost wholly dissolved in them; and modern experiments have not negatived the assertion. Of this we are quite certain that it is not, like some other of the metals, injurious to the animal system; for it is in no respect poisonous. Its antiquity as a medicine is good evidence of its efficacy; for the simple observers of early times, ignorant of the structure of the

body, and unlearned in theories, were led to employ those substances only, of whose efficiency there could be no question. Melampus, the first who used it, administered the rust internally as a tonic, with good effect; and Diroseorides employed it, quenehed in wine, as a remedy for Dysentery. It was also used in those days as an external application for the eure of malignant ulcers. The experiencee of suceeding ages has added its testimony to its powers as a tonic; and at this day it is aeknowledged to be not only the most powerful, but the most generally applicable tonic which has ever been discovered by the art of man. The precise mode of the operation of various substances upon the system, and the reason *why* they so operate, each in their peculiar manner, has ever employed and baffled human ingenuity to diseover. Why jalap for instance should purge, and ipecacuan vomit, we cannot tell. It is in vain to say that the latter stimulates the stomaeh, and the former the bowels; this is but to argue in a circle; for the question still returns, how or why do they stimulate those organs? In the instance before us, of Iron, it has been attempted to set up a theory to aaccount for its tonic powers,— which, if it is not perfectly satisfactory, at least is plausible. Iron is itself an ingredient in tho

animal fluids; and the red globules of the blood owe their colour to this substance. Now it has been observed that the proportion and vividness of these red globules, have a direct connection with the health and strength of the system, so that an addition of Iron to the fluids taken into the body, especially if so modified as to be diffused among the blood, will increase the proportion, and heighten the colour of the red globules, and thus contribute to the strength of the whole frame.

This metal is, moreover, a powerful astringent. It constricts the muscular fibres, and thus adds to their tone. It represses inordinate discharges both into and from the intestinal canal; and for this purpose among the earliest uses of it, we read of its being employed as a remedy for diarrhoea, dysentery, cholera, and fluxes of blood. And this astringent quality still recommends it for various diseases resulting from a relaxed state of the solids, or which are kept up by injurious loss of the fluids of the body. Whether this result is obtained by its direct influence upon the nervous system, or by its admixture, as before mentioned, with the circulating blood, it does not concern us to enquire. The effect being known, the cause may be left unexplained, without interfering with its practical utility.

Iron is, further, not only a powerful tonic and astringent, but also a direct stimulant; and this is a property which cannot be attributed to any other metal. Then I think we may safely affirm that it acts upon the brain and nerves; for we find that it speedily quickens the circulation. After the use of its preparations, whether natural or artificial, the pulse is sensibly raised; the colour of the face, though pale before, changes to red; and the secretions of the bowels, kidneys, and skin, are acted upon and augmented. By this stimulant property it removes obstruction of the secretions, whether this depends upon languor and sluggishness of the fluids, or weakness of the solids; because it increases the motion of the former, and the strength of the latter. It is a diffusible stimulus, in a sense different from that which can be applied to alcholic and narcotic substances; because its effects are not succeeded like theirs, by correspondent exhaustion or depression. So that it admits of application to a large number of cases, in which these last would be useless or injurious. It will be seen hereafter that the number of substances which act as *directly* tonic on the fibres of the animal system is very limited, and not generally of a kind to be called stimuli; but Iron presents an exception to the rule, and at once

stimulates and strengthens the body. It may therefore be considered as a direct tonic, and there is no substance in nature with which we are acquainted, which merits the same appellation in the same degree.

CARBONIC ACID is the gas in combination with which Iron is presented to us in this water. This gas is itself well deserving our attention as a medicine, and in many diseases is prescribed with much benefit. This acid is commonly called "fixed air," and is compounded of carbon and oxygen. It is obtained by burning charcoal; and those who perish from the effects of the combustion of charcoal in close rooms, die from breathing this gas. It will not support flame, and is destructive of the life of all animals that inhale it. Being much heavier than atmospheric air, it occupies the bottom of wells, mines, and caverns, and causes the fatal accidents which so often occur to persons ignorantly and incautiously descending into such places. The famous "Grotto del Cane" of Naples, and the vapour grotto of Pyrmont produce and exhale this gas, so that if a dog, or any other animal that holds down its head, be forced into them, it is immediately destroyed.

In consequence of this great specific gravity it can be poured, laded, or drawn off from one vessel to another

like a liquid. The effects produced by pouring this invisible fluid from one vessel to another, have a very singular appearance; if a candle or a small animal be placed in a deep vessel, the former becomes extinet, and the latter expires in a few moments after the carbonic acid gas is poured upon them, though the eye cannot distinguish any thing that is poured.

It is this gas whieh is contained in, and gives briskness to the various effervescing drinks, such as ehampagne, eider, perry, bottled ale and porter, ginger beer, soda wa-  
ter. This last, indeed, is misnamed, as it contains but little soda, and is nothing more than water charged with two or three times its bulk of carbonic acid, by means of meehanieal pressure, by foreing pumps. It might, therefore, be better ealled *liquid carbonic acid* or *carbonic acid water*.

The medical qualities of carbonic acid gas received into the stomaeh are universally acknowledged, and re-  
sorted to. It diminishes thirst, lessens the morbid heat of the body, and acts upon the skin and kidneys. In irritability of the stomach, whether indued by intemperance or other eauses, it is particularly useful; reliev-  
ing the siekness, and restoring the tone of that organ. In some forms of indigestion this property renders it

valuable ; and in those combined with nephritic complaints, deficiency of acid in the stomach, and languid circulation, it is peculiarly grateful and proper.

Such are some of the leading characteristics of the component parts of this chalybeate water, and which constitute it an active and powerful medicine. It acts upon the body as a refreshing and invigorating tonic and stimulant. Properly used, it increases the tone and frequency of the pulse, exhilarates the spirits, strengthens the stomach, promotes the secretions, and improves the hue of the skin. When it agrees, and is adapted to the ease, the calls of the appetite become more frequent, the food is more easily digested, and the feelings of distension and acidity after eating, are diminished, or disappear. The complexion becomes more florid, pure, and healthy, the surface better coloured, soft, and perspirable, from its effects upon the skin. Vigour of body, and increased activity and strength of mind take the place of listlessness and languor ; and in temper, disposition, and manners, (dependent as these are, in a great degree, on bodily health), there is a marked improvement.

In directing our attention to those diseases for which the chalybeate water is to be employed, we shall at once perceive that it is applicable to such especially, as are

caused or kept up by direct debility, want of tone and energy, relaxation, and deficient action.

Thus, as was before remarked, in that species of INDIGESTION originating in a relaxed state of the constitution, not from disease of the digestive organs themselves, but from causes acting generally, the chalybeate water is eminently useful. This form of dyspepsia is the frequent cause of that unstrung and debilitated state of the body, which is the penalty paid for the severe and long-continued exertions which ambition or wealth demand of their votaries. Pleasure too is a stern and severe mistress, denying her victims natural rest, pure air, and healthy exercise; and often, in her grosser indulgencies, afflicting them with physical evils of a terrible kind, which compel them to acknowledge, in the words of Solomon, that "the way of transgressors is hard." The laws of nature are imperative; and the punishment follows with impartial certainty, whether they are violated by the sage in long and fatiguing study by the midnight lamp, or by the debauchee in his rounds of fashionable follies and feverish dissipation. The like depression, exhaustion, and debility ensue from the too great influence of the depressing passions. Grief, and fell remorse—

"The scoffing fiend that never spoke before,  
But said, "I warned thee" when the deed was done—"

anxiety, suspense, shame, and sorrow, the frequent heritage and dower of human nature; under which so many languish in silent misery, or which they strive to conceal by a mask of heedfulness or apathy: these operate powerfully in exhausting the vital powers. Though the cause be mental, the effect is physical; and in these instances the chalybeate water is a powerful tonic and restorative, combined as is its use with change of scene and company, and other favourable circumstances.

Long residence in an unfriendly, particularly a hot climate, is another cause of general debility. The secretions of such patients are generally disordered, and require first to be corrected either by the use of the sulphur water or other means; but a subsequent course of the chalybeate is highly serviceable, in bracing the relaxed fibres and nerves, and improving the general health.

Another very common cause of the state of the body we are considering, is the weakness consequent upon some acute disease, and the depleting remedies which have been employed in its cure. Acute diseases, such as inflammations of the lungs, bowels, and other vital organs—apoplexy, and others are much more under the controul of the medical practitioner than they used to be; and are pretty frequently, under his treatment, ei-

ther cured altogether, or converted into chronic complaints. But the treatment of these is for the most part of a debilitating character. Those who are fond of bleeding cannot understand the value of the blood, which is emphatically *the life*; it is unnecessarily shed every day by some who profess not to kill but to cure. Valuable as it is, however, in such cases as those referred to, some of it must be parted with; and by this loss, as well as by the action of purgatives, emetics, and diluents, and the abstraction of solid nourishment, the system is found, when the disease is cured, in a state of extreme depression and weakness. Here a visit to Harrogate and the judicious use of the chalybeate water will be of great service, recalling the lost energy of the body, renewing the strength, improving the appetite, and restoring the patient to sound health, in a time and manner remarkably, and almost incredibly speedy to those who have not witnessed its effect.

In persons of a weak, pale, leucophlegmatic habit of body, the habitually delicate, and constitutionally feeble, this water acts with good effect; strengthens the stomach and alimentary organs particularly, and by its continued use, the whole frame is invigorated.

NEURALGIC complaints, or pains in the nerves of some

particular part of the body are often much benefited by a course of this water. I call these complaints *neuralgic* because I prefer giving the reader the trouble of mastering a technical word to the confusion which would arise from the use of the term "nervous." The fact is that this word "nervous" has been commonly used to designate a series of affections so various, complicated, and vague, that in speaking of "nerves" we are in danger of forgetting that they are *actual organs of the material body*, visible, tangible, and pervading the whole structure. They are, in the limbs, hard firm white cords, many of them thicker than the quill with which I write; proceeding from the brain and spinal chord, and following the course of the blood vessels. They are sometimes cut, torn, or tied; and their mechanical injury is followed by symptoms of a serious kind. They are also, like the other structures of the body, susceptible of disease and disorder, of which these neuralgic pains form one most terrible in suffering and but little understood. A well-known instance of it, the "Tie Doloreux" or face-ache, is seated in the nerves emerging from the skull upon the muscles of the face. Other nerves in the breast, back, and limbs are occasionally affected with this disorder. The *materia medica* has been ransacked for remedies for it;

and none have been discovered more effectual than Iron. The chalybeate water, well impregnated as it is with this metal, and admitting of being used for a longer time than any of its common preparations, is a remedy of great efficacy, and rarely fails to procure relief.

Females, whose delicate and susceptible frames are subjected to many disorders of a peculiar nature, frequently derive great benefit from the tonic powers of the chalybeate water, which is particularly adapted to their organisation. In chlorotic and hysterical cases; in those ailments proceeding from relaxation and debility, indicated by muscular weakness, depraved appetite, sallowness of complexion, loss of flesh, suppressed secretion, a sensation as of a ball rising to the throat, and other symptoms of disordered or impaired action the chalybeate water is a remedy of great and certain efficacy:—combined with exercise, and attention to the state of the bowels, there is perhaps no remedy more useful than this.

The disease called CHOREA or St. Vitus's dance in all its various and singular developments—and those extraordinary instances of nervous diseases analogous to it, consisting of involuntary motions of the limbs, and frequently of the muscles of the face, appearing like antic tricks and gesticulations, and attended sometimes with

convulsions, or temporary insensibility; these are readily improved by the chalybeate water, when the tongue is clean, and the secretions not particularly vitiated. And indeed the whole range of nervous diseases, properly so called, dependent as they probably are upon unequal distribution of the nervous fluid, are proper subjects for the use of this water.

Here may follow a catalogue of all the diseases of direct debility; such as dropsy, tympanitis, vertigo or pain in the head from relaxation, exhausted powers from free living, loss of blood, or other causes; obstructions of the mesentery and spleen, incipient consumption, before the lungs are tainted, rickets in children, loss of the voice from weakness of the vocal organs, relaxed throat, swellings of the legs, some kinds of ulcers, and those kinds of skin-diseases which are not enumerated as requiring the use of the sulphur waters, and which arise not so much from disordered secretion as from deficient action.

There are some diseases and states of the body in which this water *cannot* be recommended, and may prove injurious. Such are those complaints characterised by feverish excitement, flushing, and local pain and tension of an inflammatory nature. Wherever there is excess-

sive action either of the circulatory, nervous, or digestive systems; heat of skin, loaded tongue, scanty and high coloured urine, or any obstruction of the bowels, this water is not to be used. When taken improperly or to excess, it occasions sickness and headache; heats the body uncomfortably; causes hæmorrhages, spasms, and pains in the stomach and bowels. Sometimes, even in those cases when its use would be otherwise proper, it either cannot be borne at all, or requires the joint use of other means. If it so far disagrees after a fair trial, that it is evidently unsuitable for the patient, he has a resource at Harrogate in the milder saline chalybeate water; in which the action of the Iron is modified by the neutral salts which are combined with it, and which I never knew to disagree with any one whose case was at all adapted for its employment.

By their chemical action on the bile all the preparations of Iron tinge the stools with a dark green or inky black colour. The same thing occurs in using the chalybeate waters of Harrogate. This circumstance has sometimes caused alarm to persons who were previously unacquainted with it. It is hardly necessary to say that the appearance is of no other importance than as it is a proof that the medicine is properly incorporated with the system and is taking effect.

DIRECTIONS RESPECTING THE CHALYBEATE  
WATER.

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This water is to be by no means regarded as one of those simples which may be employed indiscriminately, at all times, in all cases, and without any precautionary measures. On the contrary, as I have attempted to show, it is a powerful and active medicine, and adapted only to a particular class of diseases. In every instance its use should be preceded by the action either of a brisk purgative, such as Epsom Salts and Senna; or what is equally good, a three or four days course of the sulphur water. To this preliminary there must be added strict temperance in diet, so that the stomach and bowels may be unloaded, and the system properly prepared for its reception. The tongue should be clean, the skin cool, and the pulse tranquil before the chalybeate water should be used. If the sulphur water be resorted to as a preparatory step, it is proper to allow a day or two to intervene before commencing the chalybeate. It should be observed that there is no wisdom in commencing a

course of drinking and bathing immediately on arriving at the place. It is better first to get comfortably settled, that the mind may not be teased with domestic arrangements, and the body may be suitably accommodated, and both get accustomed to the new scene.

During a course of this water it is particularly necessary to take care that the bowels are moved every day. It is the nature of the water rather to bind the body than otherwise; therefore the employment of one or two mild purgative pills twice or three a week is generally adviseable. In some cases an ounce of the compound decoction of aloes, taken occasionally at bedtime, or very early in the morning, best answers the purpose, especially with females. Those who require a very mild purgative will find the compound rhubarb pill to suit exceedingly well. It is obviously improper to use the sulphur water as an aperient *during* the course of the chalybeate, or to take both on the same day, for they decompose each other, as may at once be seen on mixing the two together in a tumbler. Whatever may be the means employed, the object is not to keep up a constant or to produce a frequent purging, but merely to keep *the bowels* gently and regularly open; *to solicit, not to force them.* Many persons find that this is best effected

by a simple *lavement* of warm water now and then; and this mode has its advantages too. The thing to be insisted upon however is, that the bowels should be regularly and daily evacuated, or the next thing will be a disordered stomach, with furred tongue, griping pains, flatulence, uneasiness, headache, and loss of sleep; which are often more readily imputed to the inaptitude of the water to his particular case, than to the patient's own fault in neglecting a precaution so requisite and simple. It is also necessary to observe that this water must not be drank immediately after a full meal. All mineral waters require that the stomach should be empty when they are taken.

The times of taking the water must, therefore, be regulated by the habits of the patient, and especially by the hours when he takes his meals. When it can be done with comfort, a visit to the well should be made before breakfast, and a tumbler or two drank at an early hour in the morning. This, however, cannot be borne by all persons; for, to say nothing to the indisposition to early rising, which many invalids experience, it is not often that delicate persons can bear that quantity of cold fluid soon after rising. Neither is this plan to be recommended to those who require an occasional

laxative, with the operation of whieh it would interfere. But, for those more robust and active persons who seek rather the establishment of possessed, than the recovery of lost health, and where the water sits well upon the stomach at that hour, an early dose is found to be highly advantageous.

The times most generally adapted for taking it are the middle of the forenoon, about three or four in the afternoon, and seven or eight in the evening. This direetion presupposes an early and moderate dinner and regular hours. If the patient dines late and eats heartily, there is no more good to be done with the water for that day; and he must be content with taking it midway between breakfast and luneh, and midway between lunch and dinner.

The proper dose to eommenee with is half a pint. This may be imbibed at one or two draughts, as most agreeable to the feelings; in the latter ease a few minutes' gentle exereise should intervene. After a few days the quantity may be doubled, and, in some eases trebled, if no ineonveniencie is felt from the bulk of fluid reeeived into the stomaeh. The general eaution never to drink largely of eold water, when in a state of perspiration, is applicable here; and yet it is desirable that sufficient

exercise shall previously have been taken to arouse the powers of the system, and to avoid the error which is sometimes committed, of drinking a quantity of cold fluid, when the patient stands shivering at the well, with cold feet and torpid circulation.

When the water agrees, it sits lightly and agreeably on the stomach; occasions a pleasing warmth over the body, and exhilarates the spirits. It will act upon the kidneyes or skin according as the weather is warm or cold, or as the person is lightly or warmly clothed. In cases where it disagrees, or to which it is not applicable, it generally warms the patient, by producing those unpleasant symptoms before referred to; and where nausea, giddiness, and discomfort are immediately felt after drinking a moderate dose, it is proper to discontinue it immediately, and have recourse to other means.

## THE SALINE CHALYBEATE WATER.

### ANALYSIS.

#### CHELTENHAM\* PUMP ROOM WATER.

##### ONE GALLON CONTAINS:—

###### *Gaseous Contents.*

	Inches.
Carbonic Acid Gas .....	5·75
Nitrogen or Azote.....	7·75
Cubic Inches ....	<u>13·5</u>

###### *Solid Contents.*

	Grs.
Oxide of Iron .....	5·3
Muriate of Soda .....	576·5
Muriate of Lime .....	43·5
Muriate of Magnesia .....	9·65
Grains.....	<u>634·95</u>

#### MONTPELIER CHELTENHAM\* SPRING.

##### ONE GALLON CONTAINS:—

###### *Gases.*

	Inches.
Carbonic Acid .....	18·5
Carburetted Hydrogen .....	3·5
Nitrogen or Azote .....	8
Cubic Inches....	<u>30</u>

###### *Solid Contents.*

	Grs.
Oxide of Iron .....	3·1
Sulphate of Soda .....	19·9
Muriate of Magnesia .....	34·3
Muriate of Lime .....	174·7
Muriate of Soda .....	645·6
Carbonate of Soda .....	6·4
Grains.....	<u>884</u>

These are the two waters which we propose to consider under the head “Saline Chalybeate,” and they

\* Dr. Granville opens “ore rotundo” upon my friend Dr. Hunter for “having himself adopted and justified in others the *assumption* of the name of “Cheltenham Saline” a spring, in regard to the water found at the Royal Promenade Room, when in reality there is no similiarity between the two”—inasmuch as, the latter contains no Sulphate of Soda, and does contain Oxide of Iron, the former of which is abundant, and the latter exists but in a very

form a most important and useful addition to the medical resources of Harrogate. A glance at the analysis will shew us that while the pump room spring contains the larger proportion of Iron, that in the pleasure grounds has a larger quantity of carbonic acid gas, and of the neutral salts of soda, lime, and magnesia.

Their chemical contents, therefore, are in some degree

trifling degree, in the real water of Cheltenham. Dr. Hunter, whose high talents, long experience, and correct habits of thinking entitle his opinions to the greatest respect, is well able to defend himself, if need there were, from the remarks of a much more powerful and accurate critic. It seems strange, however, that the observation did not occur to one of the learned itinerant's acuteness, that these "so called" and "soi-disant" Cheltenham Springs at Harrogate were most probably "so called" and so "soi-disant," because they happened, like the real Cheltenham Water, to contain Oxide of Iron, with a considerable quantity of purgative salts; without reference, indeed, to the particular proportion of the former, or as to whether the laxative qualities of the latter were produced by the same agent.

"Non nostrum tantas eponere lites."

But, I would entreat the proprietors of the "so called," Cheltenham Spring, at the Royal Promenade Room, and the "soi-disant" Cheltenham Water, in the Montpellier Gardens, if they have come to the determination to alter the names, in consequence of the Doctor's strictures, to forego their intention, and let them remain as they are; inasmuch as the general medical character, both of the real and the "so called" Cheltenham Waters is the same, namely tonic and purgative, and because a name, when once adopted and pretty generally understood, is hardly to be changed, without serious inconvenience. Dr. Granville adds, with a candour that does him honour, that as chalybeate purgative springs, "they are most valuable combinations, and fully entitled "to the commendations bestowed upon them, both by Dr. Hunter and Sir "Charles Scudamore."

The latter states that "this water is unquestionably the second in importance amongst the various springs which Harrogate has to boast."

different ; but for medical purposes they are sufficiently similar to be classed together ; although there are cases which present such points of difference as to render one or the other preferable.

The Saline Chalybeate Water differs in many important particulars from those which we have already considered, and possesses in itself medical virtues of powerful efficacy and extensive application. These would be sufficient to make Harrogate a valuable and much frequented spa, were there no other mineral springs in the place, so rich is this highly favoured village in the means of curing disease, and establishing health. This water resembles the pure chalybeate, inasmuch as it possess the tonic and stimulant qualities of Iron, and it resembles the sulphurous in that it exerts a purgative action on the bowels.

It is, in fact, a combination of the oxide of iron, with carbonic acid (carbonate of iron) and the earthy salts of lime, soda, and magnesia ; not in such small proportions as are often seen in waters of this kind, but in quantity sufficiently powerful to act briskly upon the bowels—as well as upon the kidneys, skin, and nervous system. Such a compound possesses great advantages, and is useful in a great number of diseases ; in some of

whieh the other waters cannot be used, and in others their use can be aided by this. While the Iron which it holds in solution, communicates a bracing and strengthening effect, the neutral salts act as a direct, though mild purgative. Hence the operation of this water, is threefold ; tonic, laxative, and alterative; and with proper management it may be made to answer any of these intentions, with eertainty and success.

There are some individuals whose maladies require the use of the sulphur water, but who eannot bear to use it. Either its nauseous smell and taste are so intolerable to them, that they cannot overcome their repugnancee so as to to bring themselves to drink it at all ; or, from some peculiarity difficult to be explained, the stomach rejects the draught at once, as soon as it has received it, and as often as it has been repeated. In other instances the water, though swallowed and retained with ease, occasions various sensations and disorders which compel its discontinuance. Sometimes violent and continued headache, nausea, pain or distension of the bowels, flatulence or nervous exēitement are produced by taking it; and that in some persons, although the water may have had its proper evacuant effect. Wherever the sulphur water cannot for such reasons be persevered in,

although otherwise proper, the saline chalybeate may be frequently substituted with advantage, taking sufficient of it to ensure its purgative operation.

This water is remarkably beneficial in all those diseases of debility, which are the result of overstrained action and long continued excitement. In those forms of INDIGESTION, particularly, which are caused by exhaustion of the nervous energy of the various organs, from a long course of high and stimulating diet, intemperance in drinking, the presence of aerid secretions, or local irritation, the saline chalybeate is a powerful remedy. This exhaustion from over excitement, is by no means so uncommon an affection as may be imagined; its presence is often overlooked, and the complaint mistaken from the circumstance that the nervous power in the weakened organs, being scantily and unequally distributed, acts fitfully and irregularly,—sometimes violently,—so as to cause appearances resembling excitement and even inflammation. The late Mr. Abernethy\* particularly pointed out this form of disease, which he

\* I cannot pass his name without pausing to pay my tribute of respect to the memory of this great man. Few men of his time possessed such an amount of medical knowledge, and no man, in the same degree, the power of communicating it to others. I am sure I express the feelings of hundreds who, like myself, were his pupils, when I ask, Is the memory of such a man as Abernethy to pass away, or to be perpetuated only by a bust and a picture?

called "*the irritability of debility*," and which has often led to the employment of means for its cure which only increased and established its cause. Thus Indigestion becomes a fixed and habitual disease with some people; breaking out from time to time into painful and alarming symptoms, such as purging and vomiting, spasm of the stomach, colic, cramp, and haemorrhage; but still existing when these subside, or are subdued, and embittering their existence. In such cases a long and persevering course of this water, with proper diet, affords a rational and promising means of relief and cure; even when the usual modes of medical treatment seem only to increase the complaint. The carbonic acid acts as a gentle stimulus to the weakened coats of the stomach. The iron is absorbed into the circulation, and by improving the state of the blood, acts powerfully and beneficially upon the secretions; while the neutral salts stimulate the mucous membrane of the bowels; and restore and regulate the proper evacuations. When there is merely atony, or want of tone in the stomach, as indicated by

Of all his colleagues and contemporaries can none be found to hand down to posterity the name of one who did more towards the alleviation of human suffering than any other of his age? We have a life of Grimaldi the clown! but there is no Biography of *John Abernethy*, the most profound medical Philosopher, the first Surgeon, and the most talented Lecturer of his day!

loss of appetite, and those uneasy feelings after eating which show that organ to be unequal to the task of digestion, the saline chalybeate is a valuable tonic.

In various disorders of the function of the liver this water is serviceable; particularly where the secretions are scanty and discoloured from deficient and vitiated bile. Such patients should accompany its use with an occasional blue pill, combining this, when the bowels are more than usually torpid, with the compound rhubarb pill; which is stomachic as well as aperient.

When the head is affected by sympathy with the disordered stomach and liver, especially in the distressing complaint called sick headache, this water is eminently serviceable—and should be daily employed after the stomach and bowels have been once cleared of their noxious contents by a gentle emetic and brisk purge.

HABITUAL COSTIVENESS is in itself a great evil, but it is the cause of many more. From this source spring the whole tribe of digestive disorders, and head complaints, which thousands suffer from. It is the perpetual plague of the sedentary, and of those whose avocations confine them within doors. It arises, in nine cases out of ten, from deficient exercise; and from long neglect the bowels lose their tone and vigour to such a

degree that it is exceedingly difficult to make them act with any regularity. In this situation the patient generally has recourse to some one or other of the wonder working kinds of pills with advertisements of which all our newspapers teem; and each of which is, according to them, more excellent than all the rest. He does not think it worth while to trouble a medical man on a matter so trifling in his notion as costiveness, and therefore he buys a box of patent never-failing pills with a hard name—swallows the prescribed quantity at bed-time—he is well physicked, and his complaint is gone! But then the process must be repeated in a few days; and the bowels are thus alternately irritated with drastic purges, and allowed to fall into torpor again, till most dreadful consequences ensue. A gentleman who was my patient some time ago perished from seirrhos of the rectum—died a torturing and lingering death from the use of Morison's pills, which he took in great quantities to obviate the want of action in the bowels. Costiveness, a simple thing! Why it is the very *principium et fons malorum*, the very beginning and source of a very large proportion of diseases, and should be regarded as an evil of the first magnitude by all who value their health. When once the bowels have become weakened and lost

their tone, the cure is difficult and protracted, but may still be effected. All drastic and irritating purges should be avoided, and those frequently and regularly substituted which act gently and without producing disturbance. The object, once more, is *to solicit, not to force.*

In this chalybeate saline water we have a medicine prepared to our hands which exactly suits the object; and the greatest benefit may be expected from its employment, because while it opens the bowels it acts as a tonic at the same time, and thus both cleanses and invigorates them. And it has this great additional advantage, that it can be daily taken, for any required length of time, without nauseating or interfering with the taking and digestion of food, as would be the case more or less with any combination of drugs, however judiciously selected, and carefully administered. It would be the patient's own fault, if being once cured, he allowed the bowels to relapse into a state so easily avoided, and so fraught with mischief.

*Piles* which are generally the consequences of habitual costiveness, are relieved and removed by the use of this water, which should be steadily persevered with for sometime. It may be used both externally and internally.

The saline chalybeate water is admirably adapted to

many complaints and disorders of the female frame; especially those accompanied by constipation, and irregularity of the natural secretions, upon which the health of the body so much depends. In chlorosis, amenorrhœa, metorrhagia, and leucorrhœa, this water is a mild and safe remedy; the effects of which are gradual, and permanently beneficial. In the many Protean and complicated forms under which hysteria shows itself, much benefit may be derived from it; possibly in all these disorders, because the purgative nature of its saline contents directs the tonic powers of the steel towards the affected organs. The same may be said of the various affections of the kidneys and bladder, accompanied with gravel, scantiness, heat, and high colour of the urine, which many people suffer from; and especially of those varieties which arise from the product of digestion being irritating and incomplete. When this is acrid and irritating, its absorption creates disturbance and uneasiness in the urinary system, and leads to many painful diseases of those parts which can only be removed by correcting the cause from which they arise.

The saline chalybeate water is, further, of great utility in many forms of scrofula: in these there is torpor and a want of irritability in the whole system accom-

panied with a deficiency of saline particles in the serum of the blood. This defect occasions a stagnation of fluids in the glands, and leads to swelling and disease of these organs. In such cases the salts contained in this water enrich the blood in that which its healthy constitution demands, while the metallic impregnation improves and invigorates the general health. In such cases it should be used as an alterative in small doses, repeated three or four times a day, and not in a manner to elicit its purgative operation.

Like the sulphurous this water is useful in hypochondriac complaints; in those especially dependent upon congestion from weakness of vascular action in the bowels. Its stimulating and strengthening effects upon these organs, when persevered with for a considerable time, produce great relief. From the same cause it is to be recommended, as before noticed, when the patient is affected with piles, especially of the bleeding kind; which are sometimes nothing more than an effort of nature to relieve the congestion here referred to. The sulphur water, indeed, is highly and deservedly celebrated for its efficacy in the cure of these diseases; but when the patient is much debilitated, and the complaint of long standing, and therefore requires long application of the

curative means, this water may be serviceably substituted after the full effect of the former has been obtained.

In JAUNDICE, whether arising from a thickened condition of the bile, or the presence of concretions impeding its transit from the liver and gall-bladder to the bowels, this water is beneficial, especially in the latter stages of the disease. And in those cases of obstruction of the bile hardly sufficient to be called *Jaundice*; but characterised by sallowness of complexion, discolouration of the eye, general restlessness, indisposition to exertion, diminution of appetite, and disturbed sleep, the saline chalybeate is highly proper, and a powerful auxiliary of medical treatment.

Chronic Diseases of the chest, many of which are intimately connected with digestive derangement, such as Asthma, are often relieved by this water. Many cases of this description, which looked like consumption—where there was cough, mucous expectoration, loss of flesh, nocturnal perspiration, and palpitation of the heart, accompanied with general weakness, foul tongue, and disordered secretions, have been benefited by this water; employed at first in purgative, and subsequently in alterative doses — varying them afterwards

with especial reference to the condition of the bowels.

In *hemorrhages* or preternatural dischages of blood, whether from the nose, mouth, or bowels, dependant upon local fulness of the vessels, general weakness of the system, and unequal distribution of the blood, this wa-  
ter is serviceable, by equalising the circulation, strength-  
ening the ruptured coats of the vessels, and restoring  
the tone and vigour of the whole body. There are also  
many local and surgical diseases which are benefited by  
a course of this water, especially those of a scrofulous  
and scorbutic kind, and those connected with derange-  
ment of the general health. Of these are many  
species of chronic abscess, running sores, and ulcers of  
various parts, most commonly the legs, which will resist  
every mode of local treatment until the secretions are  
restored to a proper state, and the general health recover-  
ed. A judicious selection of topical applications, com-  
bined with the use of the saline chalybeate water is  
often attended with signal and unexpected improvement  
and success.

Examples might be multiplied from the extensive  
range of diseases in which the saline and chalybeate  
nature of this water renders it applicable, did the na-  
ture of this small Treatise permit. It may be sufficient

to add, that, in the first edition of his excellent work on Harrogate, Dr. Hunter enumerates pimply eruptions, a scaly and scurfy state of the skin, exudations and watery humours of the skin, inflammation of the skin of the face, some kinds of scrofulous tumour, chronic inflammation of the eye and eyelids, some stages of gout, rheumatism, intestinal worms, &c.

These diseases, more or less dependent upon, or connected with disorders of the digestive organs, are no doubt benefited, chiefly if not entirely, by the cleansing and invigorating effect of the iron and salts contained in this water upon the stomach and bowels; rather than by any local action.

Without pretending to give even a catalogue of the numerous complaints in which the peculiar properties of this excellent water render it available, I hope enough has been said to give the intelligent reader a fair and intelligible account of its nature, operation, and general application. It remains only that a few words should be added as to the

TIME AND QUANTITY TO BE OBSERVED IN TAKING  
THE SALINE CHALYBEATE WATER.

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At first half a pint of this water should be taken two or three times in the day, selecting those hours the farthest removed from meal-times. This quantity may be increased to a pint or a pint and a half at once, as the case may require, and the patient be able to bear it. The two distinct actions of the water as purgative and tonic must be here kept in view. If the purgative effect preponderates the dose should be diminished; if it is deficient, and the bowels become slow, it should be increased, particularly in the morning. Remember that if the bowels are confined, no permanent good is to be done with this or any other mineral water.

On the other hand if they are irritable and frequently relaxed during the day, the dose must be diminished; and if necessary discontinued for a few days. A very good rule is to take two glasses during the morning, and one in the afternoon and evening; although the peculiarities of individuals do not permit this or any other

general rule to be of universal application. In those instances where the quantity of cold fluid seems to occasion uneasiness in the stomach, it is better to subdivide the doses, taking but little at once and swallowing slowly, than to warm the water. By the latter process the carbonic acid is dissipated, and the iron which it held in solution precipitated. In fact the character of the water is altered—it is no longer a chalybeate but a saline—and its tonic powers are completely lost. With proper management, and varying the dose and time with judgment, according to his feelings, the patient will soon find this water to sit lightly upon the stomach, and to act in a mild and effective manner upon the bowels and kidneys, without producing either languor, griping, or distension. He will perceive that, notwithstanding its purgative effect, he grows stronger, more cheerful, and more active under its use; and the only further caution that he needs is not to discontinue it until he has quite re-established his health, or fully experienced all the benefits which could result from its use.

## THE SALINE WATER.

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This description of mineral spring, (whieh is furnished at the Crescent Pump Room) completes the list of the Waters of Harrogate, and inereases our admiration before expressed, that so many medieinal waters, various in kind, and all useful in disease, should be found in the same place. For this reason the importanee of Harrogate must steadily inerease, and its reputation as a watering plaee annually extend; for if mineral water of any kind be proper, the sufferer can hardly fail of finding one here whieh is applicable to his complaint.

The Analysis of the Saline Water shows that it eon-tains in the imperial gallon.

<i>Solid Contents.</i>	<i>Gases.</i>
Muriate of Soda .....	Grs.
Muriate of Lime .....	610
Muriate of Magnesia .....	14.5
Carbonate of Soda .....	14.5
	53
	Inches.
Nitrogen .....	8.
Carbonic Acid .....	5.60

The first thing that strikes us in considering this water is, that it is a *pure saline*, free alike from Sulphur and Iron. A slight trace of the latter, may indeed be sometimes detected in what is first pumped out, but in a specimen of the water with which I was favoured, and which was taken with a syphon from the well, there was not a vestige to be found. Of the absence of sulphuretted hydrogen gas the olfactory nerves will assure us quite as certainly as the tests of the chemist. Another important characteristic is the quantity of the Carbonate of Soda which it contains, amounting to six or seven grains in the pint, and which renders it useful in a much more important and extensive range of diseases.

The action of this water upon the human system is diuretic, sudorific, deobstruent, and sometimes purgative. It acts like the medicines of its class upon the kidneys or skin, just as the surfaces of the body may be heated or kept cool after taking it. There is reason to believe that it powerfully influences the lymphatic system. This set of vessels has already been referred to, and explained as consisting of a vast number of small tubes opening upon the surfaces of the bowels and other organs, and conveying the nutritious parts of the digested aliment into the circulating mass of the blood.

They are liable to diseases, both of deficient and excessive action. In the former case they do not perform their office of absorption, and the nourishment of the body does not keep pace with the digestion of the food. In these cases the saline water is highly beneficial in acting as a stimulant upon their orifices, and exciting them to their natural and proper action. In this way it is often useful in scirrhous affections of the different glands, swelled legs and arms, scrofulous and rickety affections.

Obstructions sometimes take place in many of the abdominal organs, such as the liver, spleen, &c., and in these cases the saline waters are recommended with advantage.

Acidity of the stomach is often both a consequence and a cause of incomplete and inefficient digestion. It is, as before noticed, the *result* of indigestion; because food, whether animal or vegetable, exposed to the heat and moisture of the stomach, uncorrected by its peculiar solvent powers, run of themselves into a state of fermentation and sourness; it is *a cause* of indigestion because its presence acts injuriously on the coats of the stomach and still further weakens that organ. Flatulence and heartburn, and a sour state of the mouth in-

dicate the presence of this affection, which is relieved by this water, owing to the large proportion of carbonate of soda which it contains in combination with its other salts.

It acts also upon the kidneys, increasing their secretions, and promoting their office of carrying off the impurities of the body. I believe it to act more directly upon these organs than any other of the waters of Harrogate. It is very useful in gravelly cases, when the urine deposits a red and sandy sediment; or when it is deficient in quantity and voided with heat and difficulty. In many such cases as these, a course of this water may be had recourse to, and its efficacy would be increased, in some instances, by mixing with it an additional portion of the carbonate of soda.

In diseases of the urinary passages generally, benefit will be derived from drinking this water; in such of them chiefly as are dependent upon increased action, rather than simple debility. And in those cases of gout which are complicated with this kind of annoyance, the saline water will be found serviceable.

In what is termed Renal Dropsy, caused as this is by disorder of the kidneys, and characterised by pain in the region of those organs, tenderness, and weight; and

in other species of dropsy, attended with languor and debility, this water will be a useful auxiliary to other treatment.

There are many other complaints in which this water is beneficial; such as affections of the stomach, bowels, and liver, caused by local determinations of blood, or slight inflammatory action in these organs. Some of the more irritable diseases of the skin, and scrofulous cases, attended with chronic fever, and shooting pains in the neck and limbs, and several uterine affections, in which there exists irritation and a deficiency of secretion from this cause may be enumerated. In these the water should be taken freely, so as to produce its full evacuant effect, and in doses of a pint at least, in separate draughts twice a day.

One great recommendation of this saline water is, that in cases where such a course may be adviseable, it can be usefully taken with any other of the waters, whether the sulphurous or chalybeate; or it may be alternated with these, without producing chemical decomposition, or any other unpleasant effect.

Those who have drunk a particular water daily for some time, will readily understand the comfort and relief they experience from a change to another when the

complaint does not forbid it; and I have often seen this water substituted for a short time both for the sulphurous and the chalybeate with great advantage; and the return to the originally prescribed water has seemed to be, in many instances, attended with increased effect.

There are two or three cases of the treatment of disease by this water recorded by Dr. Jaques which seem to me of so interesting a kind, and to be so descriptive of its powers in one class of complaints, that I shall make no apology for introducing them.

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#### CASE I.

A lady, between fifty and sixty years of age, for a number of years had at times been afflicted with lowness of spirits, pain, and soreness of the stomach, want of appetite, and restless nights. A quantity of nervous and other medicines had been used without effect. I advised her to drink the Crescent water to the extent of three glasses a day; viz, one before breakfast, another at eleven o'clock, and another at three o'clock. She found some relief in about a week, and in a fortnight thought herself much better. If she omitted the water, even for a day, the complaints returned, but on having

recourse to it again, she always found immediate relief. After persevering in the use of it for about three weeks, she got quite well, and has since enjoyed a good state of health.

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## CASE II.

I was consulted by a gentleman, who had been for three months subject to violent spasms of the stomach, want of appetite, restless nights, and a frequent discharge of loose stools both night and day, his legs and thighs pitted on pressure, he was so much reduced as to leave little hopes of his recovery; he had taken a great quantity of aether, laudanum, and astringent draughts, from which he had found only temporary relief. I advised him to drink the Crescent water. The first day he found his spirits better, and the complaint in his bowels somewhat relieved; the third day he had a slight attack of spasm in his stomach, but it never returned after; and in eight days the swelling of his legs and thighs was removed, his appetite better, and his nights comfortable; and at the end of five weeks he left Harrogate in perfect health, and has not since had a relapse.

## CASE III.

A married lady between 50 and 60 years of age, of a nervous habit, complained of pain of the stomach, nausea, and other symptoms of indigestion; several of her family had been afflicted with the gout, but she never had the least symptom of it. I advised her to drink a glass of the Crescent water the first thing in the morning, another about an hour after, same dose at 11 o'clock in the forenoon, and again at four in the afternoon. Before she had continued its use in this manner for a week, the pain of her stomach, and symptoms of indigestion left her, and she was attacked with pain and swelling of her hand, which continued while she remained at Harrogate, which was about a month, her general health being much better.

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## CASE IV.

I attended a lady, aged thirty-five, who had for a considerable time complained of general weakness, and want of appetite, and was very much emaciated; she had tried a variety of medicines, but without any

permanent relief. I advised her to drink about half a glass of the Crescent water, three or four times a day, for a few days, and then to increase it to a whole glass. She found relief from it in a few days, and has continued in a pretty good state of health.

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#### SUPPLEMENTARY REMARKS ON DIET AND EXERCISE.

It is the general opinion that "*sanis omnia sana*"—that persons in good health need pay no attention to the quality of their food, nor take any precaution as to its quantity beyond the guidance of their own appetite, and the avoidance of gross excess. But this is true only to a certain extent; for, while it would be unreasonable to expect people to live in perpetual watchfulness over their diet, we are compelled to acknowledge that a very large proportion of the diseases with which we have to contend, are occasioned by habitual error in this respect.

Reasoning from this fact, it has been often the case with many writers on this subject that they have mistaken

"reverse of wrong for right" and erred on the other side; inducing the observance of a too simple and meagre diet. The great principle to be observed, in regard to healthy people is, that the food and labour should bear a just proportion to each other—that the supply should be equal to, but not exceed the wear and tear of the system. If the amount of nourishment taken be not adequate to the demand for it, emaciation and weakness must ensue; and if the proportion of food habitually exceed what is required, then must follow the evils of over-distension, plethora, and a long train of diseases of the stomach and other organs.

There can be no doubt, however, that for invalids the greatest care and circumspection is necessary in respect to diet, and that unless this be attended to, the most judicious medical treatment will be in vain. By habitually or frequently taking substances which irritate or disorder the stomach, the general debility and illness will be kept up for weeks and months, notwithstanding that in every other respect the means used for the recovery of health are most judiciously and carefully employed. When, therefore, the invalid perceives that one particular kind of food disagrees with him, he should lay it aside at once, without hesitation, however fond he may be of it.

One great error in regard to the diet of invalids is that they consume too great a *quantity* of food. As the body is languid and weak, and as the aliment is the only means of strengthening it, the conclusion seems to follow that the oftener food can be taken, the sooner will the strength be regained. But it should be remembered that the stomach is a part of this weak body, and partakes, equally with the other organs, of the general debility; so that to overload and overtask its powers cannot be otherwise than injudicious and injurious. To assign extra labour to a man who is ill, or to a limb that is lame, would be at once acknowledged to be improper; yet it is the common custom to be frequently taking articles of nourishment into a weak stomach, without allowing it time for the performance of the office of digestion, or for needful repose after it.

If this be true of solid food, it is much more true of liquids. To say nothing of other stimulating drinks, I am quite convinced that the enormous quantities of tea and coffee consumed in this country are not only the exciting but the perpetuating cause of a vast number of stomach-diseases, and of much general debility. However people in robust health may bear, or appear to bear, the practice with impunity, invalids should exer-

cise great caution in admitting a large quantity of warm, enervating, and narcotic liquid into the stomach twice a day.

The common practice too of drinking a considerable quantity of fluid with the principal meals is injudicious, and I believe injurious. Physiology teaches us that the solid food taken is digested by the action of the gastric juice, which is freely secreted by the stomach for this purpose. Now the liquids swallowed with the food must at least dilute and weaken this gastric juice, and render it less qualified for its office. In accordance with this theory we observe that of the inferior animals, guided as they are by unerring instinct, none can be found which eat a little, then drink, and then return to eating again.

One more remark should be added in reference to the subject of alcoholic and stimulating drinks. The invalid, feeling an immediate exhilaration from the use of these, is apt to imagine that they are nutritious and serviceable to him. But the vigour thus imparted is transient, and the temporary excitement must be and is succeeded by a proportionate depression. It is a grand and mischievous error to confound stimulation with strength; and to suppose that the powers of

the system are invigorated when they are only excited.

Of exercise it may be said that it is of paramount importance in the preservation and recovery of health, and should on no account be omitted whenever it is at all practicable. Errors in diet may be corrected by exercise; but no care in diet can compensate for the want of it. It should be regular, but not fatiguing, either in its kind, or the manner in which it is taken. Walking, when it can be borne, proportioned to the strength, and selecting the proper hours, when the stomach is not loaded with solid food, is by far the best, as it is the most natural exercise that can be taken. Where lameness or extreme debility render walking impossible, riding must be substituted; but it is important in both cases that it should be combined with cheerful society, that the mind as well as the body may be refreshed.

The limits of this treatise will not permit me to pursue this interesting subject further than just to add a summary of cautions deduced from the foregoing considerations for invalids using the Harrogate Waters.

1. Avoid overloading the stomach with too much solid food.
2. Be abstemious in the use of tea and coffee; of the former especially, when using the sulphur or chalybeate waters.

3. Take as little liquid of any kind as possible at dinner; remembering that the quantity of mineral water you are drinking during the day furnishes a supply of that fluid generally sufficient for the use of the system.

4. The less of any kind of stimulating beverage you use, the better chance have the Harrogate waters of benefiting you, and the more speedily are you likely to recover your strength.

5. Take regular exercise in the open air, at proper times, and in cheerful society, avoiding as far as possible inducing perspiration or fatigue.

F I N I S.







